

INDUSTRIAL HYGIENE SECTION

This Industrial Hygiene Section is published to promote sound thought upon and concerning industrial hygiene. To that end it will contain articles, discussions, news items, reports, digests, and other presentations, together with editorial comments. The editorial policy is to encourage frank discussion. On this basis contributions are invited.



Reg. U. S. Pat. Off.

The Editorial Committee will exercise its best judgment in selecting for publication the material which presents most exactly the factors affecting industrial health and developments for control of potentially injurious exposures. The editors may not concur in opinions expressed by the authors but will endeavor to assure authenticity of fact.

The Science, the Law and the Economics of Industrial Health

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Section 3

Getting the Job Done

THE QUESTION of whether or not survey reports of state industrial hygiene bureaus should be made generally available to interested persons introduces several moot points as is evidenced by the enlightening discussion on this subject at the May meeting of the NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS. Indicative of the earnestness of this group in the attainment of their fundamental purpose of getting the job of industrial hygiene done, the principal criterion in arriving at a justifiable viewpoint was the ultimate effectiveness of the program.

Most prominent in the discussion was the thought that successful control of occupational disease depends upon the confidence of plant management in the governmental industrial hygiene bureau. It is management which can keep the official bureau informed on introduction of new processes or materials which may be hazardous, and it is management which makes the expenditure for control measures.

It has been well demonstrated by those bureaus which have longest been organized that the cooperation of management permits both more rapid and more constructive action than does coercion. Consequently, the handling of reports of surveys should be such as to engender that confidence and not destroy it. This means that the report, often including confidential process data, should be a private document available only to the management of the plant where the investigation was made. In fact, in one state, a statute forbids the use of such reports in any compensation hearing or court of law. In another, there have been no subpoenas in 10 years.

Much is to be said in favor of this procedure, assuming the official agency to be firm in its policy of protecting the health of the worker. But how tenable is the position of the agency when it refuses to divulge its findings to a fact-seeking compensation commission or to the worker himself or his union?

Bloomfield expresses the opinion that "Reports of the industrial hygiene agency should never be used in litigation by either management or labor" . . . excepting "if the court needs data to determine

whether certain alleged conditions really exist. Then, and only then, should the commission and court call upon the official agency to determine the facts in the case." Although Bloomfield considers that "public health agencies should be more aware of their responsibilities in this particular field," others point out that if the facts favor the claimant, industry will be more hesitant next time to call the agency into the plant. This would be particularly true where management suspects that a bad condition exists—and it is for just such a condition that the services of the agency are most critically needed. On the other hand, if the facts favor the defendant, labor will be inclined to think that the agency is in collusion with industry and, instead of looking upon the agency as its protector, will regard it with suspicion. Much depends, however, on the manner in which such a function is undertaken, and undoubtedly accepted policies on the use of survey data in litigations will vary from state to state.

Opinion is also divided concerning the information to be provided the worker and the union. It is generally agreed that management should be informed concerning the disposition of data obtained prior to the conduct of the survey, and also that a complaining worker or his union should be told that any necessary action to make industrial conditions healthful is being taken—and the agency should see to it that the condition is properly disposed of. In the interest of getting the job done, the majority opinion was that disclosure of the report itself to the worker should be denied.

With the increasing interest of labor in healthful working conditions, there is every probability that the worker and his union will make more insistent demands to be informed on the details of exposures to potentially harmful materials. Labor-management committees will be requesting studies of occupational health hazards to a constantly greater extent.

Whatever the individual policies of the state industrial hygiene agencies, so long as the primary influence is the most effective method of getting the job done, both management and labor can be assured of the sincerity of purpose of these agencies whose representatives make up the NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS.

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NATIONAL CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS

—Seventh Annual Meeting—St. Louis, May 9, 1944—

Report of the Secretary-Treasurer

THE membership of this Conference at the last meeting in May, 1943, consisted of 62 members, three affiliate members, and 147 associate members, bringing the total membership to 212. Today, our Conference rolls show 78 members, two affiliates, and 201 associates, making a total of 281, or an increase of 69 members.

These 281 members of the Conference represent 38 states, eight cities, two counties, one Territory, five Federal agencies, 11 universities, and Canada.

A brief summary of governmental industrial hygiene activities for the past year, based on reports and observations your Secretary-Treasurer is in a position to know about first-hand in his official capacity in the Public Health Service, would, in essence, indicate the part which the members of the Conference played in the advancement of industrial hygiene throughout the nation.

Division Activities

AS ANNOUNCED in the February, 1944, *Industrial Hygiene News Letter*, issued by the Industrial Hygiene Division of the Public Health Service, the reorganization of the Service, effected by action of the 78th Congress, became operative on December 30, 1943. Under the new plan of administration, the present structure of the Industrial Hygiene Division, with the exception of the Research Section, is now a division of the Bureau of State Services and is one of the three divisions in that Bureau. The other two divisions are Venereal Diseases and States Relations.

Our Division as now constituted consists of a Dermatoses Section and the Field Operations Section (formerly the States Relations Section) and four units; namely, Medical, Engineering, Statistical and Chemical. The total personnel of the Division numbers 121, of whom 64 are on loan in the field.

Aid to War Department

THE Division has continued its assistance to the War Department in the inspection of government-owned, contract-operated Ordnance facilities. To date, 130 surveys and resurveys have been made in 90 government-owned industrial military establishments. Two regular officers of our Division continue on assignment with the Safety and Security Branch of Ordnance in Chicago, being actively engaged in implementing the recommendations resulting from our inspections and in promoting other phases of the industrial health program in these establishments.

The information collected by the industrial hygiene unit of Ordnance clearly indicates that this cooperative program has resulted in definite control of the various health hazards in these plants, and much has been accomplished in maintaining health at a high level and in reducing time losses from industrial diseases.

Cooperative Activities

WAR MANPOWER COMMISSION—The Division has continued its cooperative activities with other Federal agencies, notably with the War Manpower Commission, in studies of special industries in which alleged poor working conditions resulted in high labor turnover. One such investigation dealt with a study of working conditions in aluminum reduction plants located in eight states. This investigation was instrumental in effecting improvements in the working environment of some of these plants.

U. S. MARITIME COMMISSION—Another cooperative venture has been maintained with the U. S. Maritime Commission, both by our Division and many of the State industrial hygiene units. Various shipyards operating for the Maritime Commission have been inspected by state units for the purpose of evaluating and controlling existing health hazards.

Later today DR. DREESSEN will tell you of the cooperative investigation of shipyard health hazards now being conducted by our Division with the health staff of the Maritime Commission.

WAR PRODUCTION BOARD—As you know, the War Production Board has established during the past year an Industrial Health and Safety Section as part of the Plant and Community Facilities Service in the Office of Labor Production. This Section acts as a referral agency in all matters pertaining to safety and health, and has been calling upon our Division, and through us on the various states, to investigate hazards and other conditions in the working environment in order to eliminate any sources of ill health and lost time. One investigation conducted for this Section by our Division had to do with the chromate industry, while further assistance was also given in connection with logging and saw mill camps.

National Society for the Prevention of Blindness

THOSE of you who have been following closely the activities of our Division, through the medium of the monthly news letter, are aware of our cooperative program with the National Society for the Prevention

Tuesday Morning, May 9

FIRST Session: PAUL A. BREHM, M.D., presiding.

Worker Health Education—A Symposium: "The Federal Government's Responsibility"—ELNA I. PERKINS, Associate Health Education Specialist, Division of Industrial Hygiene, U. S. Public Health Service.

"The State's Responsibility"—WILLIAM G. HAZARD, Acting Chief, Industrial Hygiene Service, New Jersey Department of Health; HERBERT T. WALWORTH, Chief Industrial Hygiene Engineer, Division of Preventable Diseases, Tennessee Department of Public Health; JOAN Y. ZIANO, R.N., Nursing Consultant, Division of Industrial Hygiene, Illinois Department of Public Health.

"The Employer's Responsibility"—ANDREW FLETCHER, Vice-President and Treasurer, St. Joseph Lead Company.

"The Labor Union's Responsibility"—LEO PRICE, M.D., Medical Consultant, International Ladies' Garment Workers' Union.

Tuesday Afternoon, May 9

SECOND Session: PAUL A. BREHM, M.D., presiding.

Round Table Discussion:

"To What Extent Should Official Findings Relative to Plant Conditions Be Made Available to the Worker?"—Led by KENNETH E. MARKUSON, M.D., Director, Bureau of Industrial Hygiene, Michigan Department of Health.

"The Pros and Cons of Standardization." "In Field and Laboratory Procedure"—Led by ROBERT M. BROWN, Supervisor, Industrial Hygiene Service, St. Louis City Health Division.

"In Record Keeping and Reports"—Led by VICTORIA M. TRASKO, Assistant Statistician,

Division of Industrial Hygiene, U. S. Public Health Service.

"In Setting Threshold Limits"—Led by MANFRED BOWDITCH, Director, Division of Occupational Hygiene, Massachusetts Department of Labor and Industries.

"The Interest of the War Production Board in Industrial Health"—JOHN M. FEWKES, Chief, Industrial Health and Safety Section, Office of Labor Production, War Production Board.

"The Coordination of Federal and State Industrial Nutrition Programs"—ROBERT S. GOODHART, M.D., Chief, Nutrition in Industry Division, War Food Administration, U. S. Department of Agriculture.

"A Cooperative Shipyard Study by the Public Health Service and the Maritime Commission"—WALDEMAR C. DREESSEN, Chief, Medical Unit, Division of Industrial Hygiene, U. S. Public Health Service.

of Blindness and the Joint Committee on Industrial Ophthalmology and Otolaryngology.

One of our officers is attached to the National Society for the Prevention of Blindness, and has developed an industrial eye program for the protection of eyesight among industrial workers. Recently our ophthalmologist has been making comprehensive industrial vision surveys in Connecticut, in cooperation with the Bureau of Industrial Hygiene there.

Aid to States

PERSONNEL—Most of you will recall the discussion which took place at our annual meeting last year regarding the most effective utilization of existing industrial hygiene personnel and facilities. Definite action was taken on the resolution adopted by this Conference, and, as a result of this action, certain criteria were established for determining essential industrial hygiene personnel. These were adopted by the Advisory Committee on Sanitary Engineering of the Procurement and Assignment Service. These criteria provide that a state with an industrial population of less than 500,000 would have one industrial hygiene engineer and states with greater industrial populations would be allowed two engineers when the population was less than a million, and one engineer for each additional 500,000 workers.

Those states which have not taken steps to have their industrial hygiene personnel declared essential within the provisions of this formula should do so immediately. Furthermore, recent policy adopted by the Public Health Service requires that only personnel declared essential will be permitted to retain their inactive Reserve commissions. Our Division notified the states to this effect recently.

CONSULTATION—The Industrial Hygiene Division continued rendering consultation services in the various phases of industrial hygiene. Most of the state units have been visited by our consultants in the fields of medicine, engineering, statistics, health education, nursing, dentistry, chemistry, and other features of the industrial health program. It is proposed to continue this consultation service to the full extent of our resources.

TRADE NAMES INDEX—At the suggestion of several Conference members, steps have been taken during the past year to develop a trade names index. We were able to make this a cooperative venture of the Conference and the government, receiving approval from the Bureau of the Budget for the project, and for the printing of a card on which the data may be recorded.

All of the state units have received quantities of these cards, and we urge you to furnish us with the information as quickly as possible. Just as soon as we have received a sufficient number of completed cards showing the composition of various materials employed in industry, we will be in a position to analyze this information and to prepare an index for circularization among the various state and local units. We hope to add to this index from time to time as new information is supplied to us.

SPECIAL AID—It has been possible for our personnel to assist some of the state and local units in special problems and hazards in war industries. For example, our Dermatoses Section has been able to work with some of the units in aircraft plants and in shipyards, and to conduct research work on specific dermatological problems.

Our Chemical Unit has continued its services on analysis of various materials submitted to the Division, while our Engineering Unit has assisted in special studies of toxic exposures and ventilation.

During the year we have added to our staff a Health Education Specialist and an Information Specialist, and have attempted to augment our education materials. Although we have been able to furnish the various units with a limited supply of new posters and workers' health leaflets, we are not too satisfied with our efforts and hope to do better in this field during the coming year.

We have made one innovation in connection with our workers' health leaflets in which you will be interested, and that is the preparation of a poster to accompany each particular pamphlet. During the coming year we hope to be able to develop material of the strip film variety, since we are in the process of purchasing the necessary machinery for developing our own films.

State Activities

TWENTY-EIGHT of the states have cooperated in furnishing our Division with reports of their activities.

At this point I should like to say in passing that we would appreciate it if those states which are now not reporting either through the means of narrative statements or the use of form Da would make an effort to do so, in order that the information which we need to supply to various agencies would be representative of the national picture.

At the present time there are 47 units in 38 states, two of which may be said to be inactive, employing approximately 350 persons.

During 1942-1943, 36 units in 28 states reported investigations and services to us on 11,100 plants employing 5,250,000 workers. The types of services rendered by the state and local industrial hygiene units were essentially of an engineering, medical and chemical nature. Twenty-four states now have 29 industrial nursing consultants. There are also four dental consultants in that number of states, and several other states are taking definite steps toward the promotion of dental programs in industry.

The promotion of health education programs for workers is rather limited at present. A few states are active in fostering nutrition programs, while others are giving some real assistance with in-plant feeding problems. Many of the states are cooperating in tuberculosis case-finding programs in industry. As the result of these efforts and those of the Tuberculosis Control Section of the Service, hundreds of thousands of workers have been x-rayed. Similar cooperative programs have been developed on venereal disease control work in industry.

Educational

MANY of you have no doubt participated actively in professional educational programs during the past year. Real progress has been made in informing others of industrial hygiene work and in making available educational opportunities. For example, since our last meeting, universities have conducted or are now carrying on 16 courses of study in industrial nursing and 10 courses in industrial medicine and hygiene for physicians, engineers, and others engaged in industrial hygiene work.

During the same period nearly one dozen institutes or symposia were held on industrial health. These were sponsored by state and local industrial hygiene units, the committees on industrial health of state and

county medical societies, industry and labor. Labor unions on the West Coast held two very important conferences on industrial health, while two similar meetings were held in Detroit by the United Automobile Workers.

Appraisals

OUR Division has continued its appraisals of state and local industrial hygiene programs. As you know, the main purpose of these appraisals is to render immediate assistance and advice on those phases of the program which indicate a need for improvement, while the long range objective is the preparation of a bulletin containing the best practices found in this field.

Our experience with these appraisals so far indicates that it would be well worth the time, effort, and money to make them on an annual basis. Our Division definitely contemplates such appraisals annually.

You may be interested to know of the problems and needs in industrial hygiene as determined through an analysis of 32 appraisals conducted so far in 27 states.

In analyzing our recommendations we find, for example, that the greatest need is additional personnel. Engineers are most in demand, with nurses and physicians second on the list. Apparently chemists and clerks are as yet fairly plentiful. Our appraisals indicate that in seven of the units the personnel could definitely stand additional training in the various professions represented.

Next to personnel shortages, our studies revealed that quarters, particularly laboratory space, are quite inadequate in a good proportion of the units. Furthermore most of the units need additional field and laboratory equipment.

Perhaps the best developed phase of the programs in the states deals with engineering services. But even in this instance, there is a definite need for more follow-up work in connection with the engineering studies, and certainly for more joint investigations by the medical and engineering staffs.

In seven of the units, we found a definite need for the improvement of the medical program. These improvements were indicated in connection with medical control of specific occupational diseases, and promotional work in developing medical programs to the point where private physicians would call oftener on the medical personnel for assistance in the diagnosis of occupational diseases. We found that, quite often, the fact that the medical officer was not a member of the medical society in the state or county in which he is working was a definite drawback toward furthering medical programs.

Problems concerned with stimulating or improving the reporting of occupational diseases were found to be common in all units. The promotion of programs for the maintenance of sickness absenteeism records in industry is likewise another phase of the program that has suffered because of concentrated service to war industries and because of limited staffs.

Some of the problems we encountered concern themselves with strengthening relationships with other divisions and bureaus in the health department, and especially with industrial accident commissions or labor departments, and, in some cases, with medical societies and labor-management committees.

Other problems encountered dealt with the recording and reporting procedures; the cataloging of library materials, and the expansion of the reprint collection. Some problems dealt with matters of salaries, transportation facilities, and, of course, the usual administrative relationships among the staffs.

We found that budgetary provisions were seldom made for the maintenance of a library and the purchase of health education materials. And, finally, there is a definite need to obtain state appropriations to supplement Federal funds now employed for industrial hygiene.

Although during the past year 50 cents of each dollar spent by state and local industrial hygiene units was not Federal money, this does not include the assistance given by our Service in the way of personnel and equipment. It seems to us that the programs have been in existence long enough in most of the states to have conclusively proved their worth and to merit the assumption of financial responsibility by the state and local governments.

I should like to add that through the kind assistance of several of the states it has been possible to print and distribute the Transactions for the 1942 and 1943 meetings, and we are planning to ask some of the states to assist us once again in the preparation of this year's deliberations.

It may also interest you to know that the monthly news letter started by this Division nearly four years ago at the request of this Conference, has apparently filled a want among those interested in industrial health. At the present time our circulation is nearly 2,000 and the contents of the letter are finding an increasing number of readers. Recently we inaugurated the procedure of having each state and local unit appoint a reporter, in order that we would receive on a continuous basis items of interest. I merely want to indicate once again that the quality and quantity of the news will depend on the cooperative efforts of all of us.

In closing this report, I should like to add that during the coming years cooperative programs, such as those I have herein summarized, will be instrumental in accomplishing the added responsibilities looming on the industrial hygiene horizon. During the coming year, the nation's industrial hygienists will have unusual opportunities to exercise leadership.

The future of our profession, and of the services we are prepared to give in the promotion of health, may well depend upon the extent to which we exercise that leadership.

WORKER HEALTH EDUCATION

Present Outlook among Industrial Workers

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INDUSTRIAL workers have probably benefited least in the annual adult health education campaigns of various national and local health agencies aimed toward informing the population regarding specific health problems. It is now generally appreciated by trained health educators, at least, that this type of publicity program does not suffice, and that intensive health education activities must be carried on among local units of the population if we expect to have effective results.

The need for establishing health education programs of suitable kind and scope to reach directly the 52,000,000 industrial workers in the nation challenges us with its immensity and complexity.

There have been many reasons for the retarded development of health education among groups of industrial workers. Among these have been the sparsity of industrial hygiene services and health education services in governmental and other health agencies, and the inadequacy of industrial hygiene programs in industries. Other hindrances have been the lack of established organization of workers in labor unions until recently, and the general lack of union interest in health matters. Fortunately all these conditions are changing and the prospects seem more promising. Perhaps we are unduly optimistic in believing that there is a general awakening of interest in industrial workers' health education. So far, however, there seem to be pitifully few attempts by any agency or group to work on the problem in such an all-out fashion as a cursory view of the size of the task shows us is needed.

Effective education in any sphere, whether it is health or something less important, requires certain essential provisions. Individuals with a knowledge of the subject are needed to carry on the program; they must have a place in which to meet groups of workers, with available time, tools and equipment.

Before knowing what these requirements will be in different situations, we shall have to apply concentrated study of the varied needs and conditions governing the conduct of health education among industrial workers. Such a study will have to be done through field experimentation within a number of different kinds of industry, fitting the program to the pattern of each industry's working organization and production operations. Other demonstrations of a community-wide nature should be made in areas where industries are massed.

Analyzing the results of these experiments, we can then recommend procedures found most practical for programs within industries, and for community programs aimed to reach industrial workers.

The Public Health Service acknowledges its own belated inclusion of health education as a coordinate part of industrial hygiene activity. During the past year, we have been having cooperative discussions in the two divisions especially concerned, the Industrial Hygiene Division and the Division of Public Health Methods, on the manner of attacking the complex solution of health education development in industrial areas. Present plans are to carry on at least two demonstrations during the coming year in industrial areas now being decided upon. The selection of these areas is being determined by a number of factors, which include the special interest and facilities of state and local health departments concerned, and the probability that the demonstrations will result in employment of health educators to continue the demonstration program on a permanent basis.

Great progress has already been made by the field staff of the Division of Public Health Methods in demonstrating the possibilities of community health education and the need for full-time trained health educators in the various state and local health departments cooperating in the demonstrations.

THE development of an adequate education program among industrial workers in any industrial area will require the combined resources of the health department, other community health agencies, labor organizations, and the medical and personnel services of industries. In undertaking these experiments we shall work through divisions of industrial hygiene in cooperation with selected industries, the labor unions having contracts with those industries and with any

health agencies concerned with health problems in the immediate area.

Concentration on a few industries in a single industrial area seems to be the logical way to approach the solution of the problem.

The object of these demonstrations will be to select techniques for reaching the largest possible number of workers in order that they will receive maximum benefit from the program. At the present time, we do not know whether it is best to concentrate on applying health education programs within industry, to urge labor unions to assume major responsibility for such activity, or to reach workers through an over-all community program. Constantly changing conditions in industry, labor organizations and health department activities will give any demonstration only temporary value but at least we shall learn some fundamental principles and the present possibilities and limitations of applying health education among industrial workers.

While working on development of techniques for conduct of a program, we shall be gaining knowledge of materials needed. Production of health education materials designed to fit the special requirements of industrial use and industrial workers' needs and tastes, is a second major objective of the Public Health Service program in this field. A beginning has been made in the preparation of the Workers' Health Series pamphlets and the two series of posters designed for men and women workers, respectively. Other types of material are being planned, particularly films of short length. These could be used in many more situations than the usual 15 or 20 minute health films designed for all kinds of audiences. For example, we have recently seen an excellent film-showing program conducted during the 10 minute rest period in a plant, in which currently available Public Health Service films have been shortened to fit this time interval. Film strips with an accompanying narrative on phonograph records may be used where inexpensive projection equipment is required, making it possible to supply films on a greater variety of subjects than can be done when using only expensive motion pictures. Film slides carrying titles without sound will also serve where automatic projection can substitute for or supplement other kinds of film showings.

A third function of the Public Health Service program, in addition to the carrying on of demonstrations and the preparation of materials, is the offering of consultation services to the states. Assistance is available for divisions of industrial hygiene, whose physicians, engineers and nurses are taking on the responsibility for developing health education, either independently or in cooperation with health educators in other divisions of their state health departments. Help in the preparation of materials by the states seems to be a present need. We shall encourage the utilization of trained health educators when new appointments are being made for industrial health education consultant services in either industrial hygiene divisions or health education divisions. The recommendations on Educational Qualifications of Health Educators made by the Committee on Professional Education of the American Public Health Association provide a useful standard. Though these recommendations do not specifically mention study of industrial hygiene, a health educator specializing in this field should have some background of study relating to health problems in industry. Only recently has consideration begun to be given to this need in training programs for health educators.

Two states on the West Coast have recently employed health educators for specialized work in health education among industrial workers. These are the only states known to have provided for this particular field of service. We shall be watching these experimental developments, and will be influenced by them in determining the nature of recommendations to be given other state health departments. The limited number of health education personnel now employed in state and local health departments would seem to preclude much expansion of consultant service from health education personnel at the present time. These few health educators and their assistants are already shouldering enough if they are carrying on the preparation of educational materials, developing local community health education programs, and assisting state departments of education.

In commenting on the need for more health education workers in state and local health departments, efforts now being directed toward increasing their number should be mentioned. The Public Health Service, with the aid of a grant from the Kellogg Foundation for scholarships, has given an impetus to the training of personnel. State health officers are being encouraged to recruit and train workers for their own state, and several have already budgeted for this purpose. We shall look to the universities offering graduate training in health education for candidates for some of the positions that promise to develop in the industrial field.

It should be stated that we, too, are working with a very limited staff, and shall not be able immediately to assume all the obligations that this discussion implies we are undertaking.

THE TERM "health education program" has different meanings to various individuals, depending upon the background of one's training and experience, and the kinds of activity observed under the label. There are bound to be variabilities of approach, of content, and of method, but some fundamental concepts can at least be stated. These are based on knowledge of successful health education programs in many kinds of situations, and on proven ways of maintaining effective human relations in industry.

A basic principle underlying the development of any health education program wherever undertaken is organization for cooperative planning. Participants in the planning should include those having technical information to contribute, those who can help effect the program, and others representing the people for whom the program is projected. If a program is to be planned within an industry, representatives from all levels of the industry's organization should join representatives of the health service and personnel staffs to form a health education committee.

The democratic organization found in labor-management committees now being established in many industries affords a foundation on which a health education committee may be built.

Some industries already have subcommittees on health organized to deal with health problems interfering with production. These committees may need some reorganization if they adopt the objective of planning a continuous health education program. In industries where labor-management relationships have not been harmoniously adjusted, a health education committee might be a safe venture in cooperative activity, since a program of health education should offer a non-controversial field of action.

When a committee starts to function, its first concern will be to find out what particular health problems

the workers are interested in. Then there must be a decision on the scope of the program. Management representatives may feel that the multitudinous problems of adult health education are not the responsibility of industry, or even if appropriately considered as part of the health services, that there is too little time and opportunity to give them attention. Management, on the other hand, may realize that it has a practical interest in the matter and take the initiative in suggesting that the contemplated program be of widest possible scope. There is no doubt that management will accept its share of responsibility for the workers' instruction on their self-protection against industrial health hazards.

A program that presents practical information on adult health problems can be expected to effect changes in everyday practices, as has already been shown in improvement of food habits through nutrition education programs now being carried on in industry. The content of the health education program will invariably include information on the plant's medical service, together with related information on community health services available.

THE CHOICE of methods to be used in reaching individuals and groups is the second problem the committee will need to consider. Methods have to be adapted to the particular limiting conditions found in each industry. Those found useful in one industry may have no place in another.

Methods of health education consist of use of visual media, including films, film strips, slides, posters, and exhibits; auditory devices, apart from films; individual counselling; and group meetings. Present health education methods commonly used in industry include the display of health posters; articles in the plant newspaper; talks over sound systems, or in training periods; showing of films during lunch hours; and counselling by physicians, nurses and nutritionists. Less frequently, class instruction is offered on nutrition, home nursing, or personal hygiene. Responsibility for these varied activities is sometimes found to be divided among the medical and nursing staff and the personnel department without any coordination of planning.

These sporadic activities obviously need to be tied together, with simultaneous application of the several methods.

A health education committee will find that material available from health agencies or commercial sources does not adequately meet the needs of its particular industry. There are several possibilities for the solution of this problem. The industries may be encouraged to assume the entire cost and responsibility for producing suitable materials, the industries and the labor unions concerned may share the cost and the responsibility, or the industry may pool its funds with other industries in the community leaving the responsibility for production with the health agencies sharing in the plan.

The type of educational materials needed will be determined by the health education committee's inquiry directed toward the workers' health problems. For example, the committee may learn that a film or printed material is needed to explain to the employees exactly how the industry's medical service functions and how it cooperates with private and community health agencies. Short films and other materials will probably be needed to help the workers understand how to protect themselves from the occupational hazards of their jobs and how to cooperate in good housekeeping in the plant.

An additional responsibility, that could properly be assumed by management, is the preparation of films concerning hazards occurring in the distribution as well as the manufacture of the product. There is a dearth of films on occupational health hazards, which could be overcome if industries would undertake production of these films, individually or by cooperative pooling of funds by industries engaged in the same kind of production. Industrial hygiene agencies can not be expected to meet the extensive need for this form of educational material with their present limited resources.

Many war industries are now giving time for "incentive programs," with showings of war films especially prepared for industrial workers, pep talks by men in the armed services, and other inspirational features. These not only build morale, but also serve the healthful purpose of relieving the monotony of work.

Inspirational and educational programs planned for the definite purpose of increasing the worker's appreciation of the world outside, should have a place in peace-time industry.

It is not visionary in these days of postwar planning to foresee a complete adult education program being offered to workers in industrial plants as well as in other places of work, using the same methods now found effective. Films, talks, and dramatic presentations concerned with the activities of the world we shall be living in can offer peace-time incentive to workers and have incalculable effect in broadening their mental horizon. Health subjects could be included in this general educational program to reach those who have neither interest in health classes nor a chance to take them.

An expert educational director having responsibility for this entire program could work in conjunction with the labor-management health education committee and the industry's medical department.

Looking ahead to the return of some leisure when there will be opportunity for more adult education in all practical and cultural subjects, labor unions will be expected to assume their share of the responsibility for education of their members on health matters. Labor unions in a few states have held health institutes during the past year, with major interest centering on nutrition, legislation for medical care programs, and cooperation with public health agencies including industrial hygiene services. These institutes indicate an awakening of interest in planning for health education programs in local unions. Unions should promote health education that will help individual members to improve their own hygienic habits of living and to take advantage of health services available. Thus, members may be helped to make more judicious use of medical care and public health services through union health education programs adapted to local conditions.

In presenting here some of the problems and possibilities in industrial workers' health education, specific examples of programs now under way have been purposely omitted, since the speakers to follow will give definite reports of experiences.

The responsibilities of the Public Health Service have been presented as we see them. Your reactions to these statements of our objectives are desired. Are we failing to help meet your emergency needs while postulating a program for long range action? Our purpose has been to suggest that industrial hygienists in governmental agencies have abundant opportunities in their everyday work to advise industries and labor unions on needs and potentialities of health education as a part of health service and educational programs.

The State's Responsibility

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HEALTH activities are carried on by state governments for one fundamental reason: to reduce the amount of sickness in the public at large. Historically and currently these activities are "good business" for our citizens, because by moderate expenditures towards prevention and early diagnosis of disease, the staggering tax burden of institutional care for the sick, the blind, the physically helpless is lightened. The keynote of state health work is: invest a little *now* to avoid a huge tax bill *later*.

In this drive to cut the spread of disease, health education is one tool—and a potent one. We may find no chapter in the statutes that directs our department to carry on health education as such, but nevertheless we have an administrative obligation to use this implement along with every other effective implement for bettering the public's health. Health education is not an end in itself, but a means towards an end; it is not so much a responsibility of the state as an opportunity.

A state has no more responsibility to educate industrial workers in health than it has to educate school children, parents, farmers, civil servants, or any other social or vocational group. It happens, however, that the industrial group through its high state of organization makes up a congregation that can be reached conveniently.

The words "worker health education" have a bookish, school-room aroma that leaves the industrialist cold and the employee irritated—for who wants to be told that he needs to be "educated"? We have found that "health promotion" and "health information" are more pleasing and more descriptive terms, and they will be used in the remainder of this discussion in place of "health education."

Health promotion may be tackled by the state bureau in two ways: either the state may carry its message directly to the worker, or it can stimulate various intermediary organizations that will in turn pass on the message to the ultimate individual worker. In the field of merchandising the first technique would be called direct consumer selling, and the second, selling through dealers or jobbers.

The average state unit knowingly or unknowingly, is actually practicing the "direct selling" of occupational disease information every day. Our physicians, nurses and engineers are regularly making plant visits, and, although the purpose of these is not primarily health promotion, that is often their end result. Our service is tailor-cut to meet the particular hazards of each separate plant.

In the "direct selling" of *general health* to the individual worker, however, we have accomplished little. Nor do we see how our present budget and staff can ever do much here. National advertisers say a product must be displayed, a trade mark flashed or a potential customer visited again and again and again, before a sale is made. With a budget of a few thousand dollars and a staff of a half dozen specialists—none of whom is a specialist in advertising, publicity, or health merchandising—our product, health, can never be sold *directly* to more than a handful of our state's two million employees. To be sure, we might have enough money to print one leaflet a year that would go to every worker in the state, but one such firecracker would not help win the war. If we were to

supply leaflets at cost, they would have limited, perhaps insignificant circulation. Even if money were available for free distribution of materials to individuals, it is a glaring misconception to think the way to promote health is just to "make some posters" or "get out a pamphlet." In some cases they may help. But in others reliance on them is almost ridiculous. You have to know *what* you are fighting before you can decide *how* to fight it. Many problems are such that even the most brilliant posters and leaflets can't possibly touch them.

If the problem is one that promotion *can* solve, the hard-won budget will be frittered away unwisely should our health propaganda be sprinkled among *all* workers, both those who need it and those who do not. Many studies have shown that a plant's sick absenteeism is concentrated among a relatively small portion of its population—which is off the job repeatedly. These are the ones on whom to work. It is wasteful to include those who do not need the health advice. And maybe the best way to work is through individual consultation between the employe and the plant physician and nurse. Many, many plants have no medical program at all—for such health promotion work. Clearly, the state agency cannot conduct such consultation between employee and physician on general health matters. What it can do, however, is to stimulate each plant to set up its own medical program. This is one of our biggest openings in health promotion. It is the core of the activities of any state industrial health unit—and yet we have barely scratched the surface. There are still many, many more plants with *no* medical program than there are *with* one.

More promise comes from selling both occupational disease and general health information indirectly, that is, through intermediary organizations which in turn can spread the word among their own members. We don't, and can't, supply materials for all the members, but simply feed ideas to their leaders and let them carry the ball. Some of the organizations with which we can work are other state bureaus, local federal offices (such as branches of the WPB, WMC, WFA, Maritime Commission, etc.), community agencies, management organizations, labor organizations, labor-management committees, professional societies and other groups.

Some interesting developments are under way. One type of group program is the Fort Green-Bedford plan mentioned by MISS PERKINS. Another activity is training courses for physicians, safety directors, and other personnel in which the staff of the state industrial hygiene unit does the instructing. In New Jersey, for example, there are now five such 60-hour courses in progress in industrial hygiene engineering, with over 120 enrolled. A third development in health promotion is with the educational departments of labor unions. And a fourth is with labor-management committees.

The latter, labor-management committees, we believe, hold especial promise as loudspeakers for the industrial hygiene unit. Basically, the committee structure is sound, for it is the employee on the job who is often more aware of the plant's health hazards than the front office executive. An effective labor-management committee, through a subcommittee on health, can be a channel for bringing to light these occupational conditions. At the same time, it can be a means for disseminating general health material.

However, real accomplishments in health by labor-management committees, measured statistically, are still apparently rare. We are now examining all such committees in our state. They number 192. We have information here on 65. Of these only six or 9% have subcommittees on health, although 26 or 40% have

subcommittees on safety. Thus 51% have no labor-management committees on health or safety. These unimpressive figures on labor-management health interest, we believe, reveal unrealized opportunity for worker health programs to develop, rather than failure of the committee plan as a suitable technique.

The best way to promote anything, health included, is to get lots of people talking about it, thinking about it, and doing something about it. And the best way to accomplish this is to get a large number of people active, through committees with rotating membership, where they will make decisions and share responsibility. If anyone doubts the effectiveness of this technique, look at the Community Chest campaigns and Red Cross drives, which succeed not because of speeches or oratory, but because a large section of the citizens get active, personally assume some responsibility and ring doorbells. Worker committees likewise can put a health promotion program across.

TO SUMMARIZE: Health promotion is a tool which the state department can well use in carrying out its main responsibility of reducing disease among the public. To reduce disease is to reduce institutional cases—and that means great savings in tax expenditures.

The industrial population is a fertile field for health promotion because it can be more readily reached than the random passerby on the street.

Health promotion can neither aim directly at the worker, or indirectly through some intermediary group which in turn distributes health knowledge to its members.

State units practice the direct selling method in their daily visits to plants and in their recommendations to set up a plant medical department where one does not now exist. Their first concern is occupational disease information. They can do scarcely anything with present budgets towards promotion of general health directly among workers.

General health can be promoted by the state industrial health unit, however, by selling it to intermediary organizations such as community health councils, professional training courses, labor union headquarters and labor-management committees. The latter offer a genuine opportunity that most of us have not yet cashed in on.

From the Viewpoint of the Engineer

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DURING the development of official state industrial hygiene programs, little attention has been focused on worker health education. Not until recently has serious consideration been given to this activity. Our efforts in education have been directed principally toward management and certain professional personnel who have or will have responsibility for health programs in industry. If we accept such educational programs as proper functions of industrial hygiene units, why should we disregard the industrial worker—the person whose health is directly involved?

The principle underlying the assumption of responsibility for the maintenance of industrial health by state government can be stated as economic; that is, states are interested in applying preventive procedures to preserve worker health, with the result that costs to the state for welfare, relief and hospitalization may be reduced or avoided. In practice many states have

adopted the procedure of offering plants counsel and assistance regarding industrial health problems and are depending upon the plants, having a desire, to do something about them. In general, these procedures have proved successful, but can we say we have completely discharged our responsibility if the workers in these industries are not sufficiently informed in health matters to take advantage of the improvements made?

Many industrial hygiene engineers have encountered the situation in which sound counsel, enlightened interest and good cooperation have moved toward the solution of industrial health hazards only to find those efforts nullified because of failure of the worker to accept and appreciate the improvement. The worker who fails to use the exhaust hood provided him in his welding job and the worker who does not follow instructions in operating a degreaser are typical examples of sabotage of the long range health program. While we have no way of measuring the prevalence of these situations, they are undoubtedly widespread.

The remedy for failure of workers to cooperate in an industrial health program, is health education. This tool can be used profitably by industry to protect its investment in the worker and in the control equipment provided, by labor to improve the health and economic standards of its members, and by the state to reduce welfare, relief and hospitalization costs.

Worker health education may originate from several stimuli; namely, industry, industry associations, insurance companies, labor groups and government agencies. Industrial hygiene has been accepted as a proper function of state government, and therefore, it naturally follows that industrial hygiene units have a definite responsibility in worker health education. The activities of these units may be divided into three separate functions: first, the promotion of worker health education among labor groups and industrial plants; second, assistance to both of those groups in the conduction of their programs; and third, cooperation with local health departments in their education programs. Assistance to industry and labor should involve the provision of technical information, suitable educational materials and direct participation whenever indicated. Responsibility of the industrial hygiene service to the local health department is stimulation of and assistance in the general worker health education program.

The problem of control of non-occupational diseases which involves both education and service activities, was a subject discussed to a limited extent by this group in 1943. While it is not the purpose of this discussion to consider the administration of industrial hygiene programs in detail, we should not overlook the fact that the industrial worker spends more than two-thirds of his time in the community in which he lives and, therefore, the problem presented by non-occupational diseases is one accepted by the local health department. However, the administration of industrial hygiene programs at the state level has proved successful because the environmental sanitation phases which require personnel having specialized training, cannot be economically administered on a local basis, except in cases of concentration of industry in large cities. For these reasons, the most practical solution to the problem of responsibility for general worker health education is the development of programs at the state level in cooperation with the local health department.

The relationship of labor, industry, and the state agency in worker health education will depend upon

the degree to which individual programs have been developed. Where labor organizations and industries have developed educational programs, the industrial hygiene service should be available as a counseling agency and should provide direct assistance where needed.

It is generally known that industrial plants employing more than 500 workers provide more complete health facilities than do the smaller plants. Many of the larger plants may have health education programs and the possibilities for promoting successful programs in this type of plant are greater than in the smaller plant. However, more than 50 per cent of the workers in the manufacturing industries in the United States are employed in plants having 500 or less workers. State agencies have an important responsibility to this group since the industries in which these workers are employed do not offer extensive health facilities.

There will be difficulties in reaching these workers on a continuous basis except through general health education programs. Absence of genuine interest by a responsible official in the small plant may require more direct participation by the industrial hygiene service. However, it would be almost impossible to carry the entire burden for small industry since participation by the state agency has certain limitations. In the small plant, we cannot expect results in worker education without education of management. To accomplish successful worker education in this type of plant, I believe it is necessary for a plant official to accept responsibility for the program. An interested part-time physician, safety engineer or personnel director can render invaluable aid in providing the missing link.

A discussion of worker health education would not be complete without some mention of its effect upon labor-management relationship. When, through educational procedures, a desire is created for better health it then follows that a demand may also be created. It is reasonable to assume that a worker who learns to take advantage of health protection in one industrial situation, will demand the same protection if he should transfer to another plant not providing this protection. However, experience has shown that usually better relations exist between labor and management in plants having good health programs.

Perhaps the point can better be illustrated by relating briefly a personal experience in which worker health education had a direct influence on the improvement of labor relations: During a series of engineering studies in a coal mining district, it developed that the plants were not receiving cooperation from the workers in maintaining proper ventilation at the working face. Simultaneously, the workers were complaining that the plants were not providing healthful working conditions. This situation had existed for some time and as the studies progressed, the need for worker education became evident. For this reason a program consisting of talks, demonstrations and movies, was presented before local union groups. Later, the idea was extended to state-wide union meetings. This procedure proved beneficial during the conduction of the studies and resulted in better relations between labor and management.

THE ACTUAL procedures for conducting engineering investigations in plants will vary from state to state and, in fact, individual procedures within a state will vary in some respects. Regardless of these differences, the conduct of the engineering phases of

the industrial hygiene program should offer excellent opportunities for worker health education. As soon as the plant study is under way, opportunities for education are presented. The long accepted policy that industrial hygienists should not discuss the plant study with employees, is not practical. If a worker is interested enough to inquire as to what the industrial hygiene study is about, he should be shown the courtesy of a concise and uninvolved explanation. Certainly the uninformed worker will not have any great desire to cooperate in your or the plants efforts for maintaining a better working environment. After the study has been completed and measures for the correction of harmful environmental conditions are installed, the importance of continuing worker education cannot be overemphasized.

During the investigation, the education program should solicit the worker's cooperation and give him an understanding of the purposes and objectives of the study. As control measures are installed, the program should inform him of the purposes of these measures and the part he can play in maintaining a healthful working environment for himself and his fellow workers. The net result of such a program may be the creation of a desire for better general health for himself and family. A worker health education program, coupled with the environmental study, can build the foundations of a continuous program in which workers may actively participate.

I shall not attempt to outline a worker health education program but I will mention certain factors which should be considered. It would seem logical to start the program on a pilot plant scale and expand as methods and procedures are evaluated. The program should be designed to bring the health information to the level of the worker on the job. Wherever possible, interest and cooperation should be solicited among labor groups, as active participation by workers should go a long way toward developing the interest needed. The following statement which was made before this group in 1941 is repeated to emphasize this point: "If you are neglected by the sponsors of any project in which you feel you ought to be a part, you are apt to become more or less hostile toward it."

In accepting responsibility for worker health education, we should not overlook the fact that such a program at the present time will have considerable competition. During the past few years, many extensive campaigns have been directed toward education for various purposes. In these campaigns every known trick and selling method has been used, probably with both success and failure. We should benefit from the results of these campaigns in so far as they are applicable to this type of education.

THE selection of materials to be used is a problem which must be given serious consideration. In my opinion, the preparation of educational material, with certain exceptions, is not the responsibility of state industrial hygiene units. Such materials as posters, pamphlets and movies should be prepared by those familiar with the fundamentals and techniques involved. We should look to other agencies and organizations for assistance in this field, and we should expect quality in preference to quantity. The U. S. Public Health Service, industry associations and private organizations are better equipped than the state agencies to provide the materials needed. We should solicit suggestions and guidance from persons with experience and training in health education. We should also look toward unification of effort so as to prevent general confusion, which would undoubtedly result if all

agencies interested in the subject promoted their programs independently.

We are familiar with the common types of health education materials and there should be little need for reviewing these in detail. If good materials are available, the method of distribution and presentation then becomes the important problem; and one which requires careful planning. Promiscuous distribution of posters and pamphlets is certainly not the answer.

Our needs for materials in this field of education are probably many. I should like to suggest the following as materials deserving consideration for future development:

1. The color cartoon movie.
2. The cartoon strip (popularly referred to as comic strip).
3. The single cartoon.

Materials of this nature have a popular appeal and if properly prepared they can be used to advantage in discharging our responsibility in this field.

The use of plant and union newspapers and publications for articles on worker health is an educational approach frequently not used to full advantage. Use of the motion picture which has proved to be an effective tool in educational procedures, should be increased. Opportunities for the presentation of movies during the lunch period, and of talks during lunch or rest periods over plant loud speaker systems, should not be overlooked.

In conclusion, I should like to leave the thought that worker health education cannot be accomplished in a short time. The programs will require careful planning and conscientious effort and they must be conducted on a continuous basis. It is my hope that from this symposium added interest and greater activity in worker education will result and that this Conference will take the lead in developing a coordinated program with labor and industry.

The Viewpoint of the Nurse

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A CHAIN is only as strong as its weakest link." The weak link in today's industrial health chain is health education.

The keynote in industry today, for both skilled and unskilled labor, is increased production, with a premium placed on output. The war urge and the high economic rewards make for an emotional recklessness. The results in accidents, illnesses and maladjustments must also be considered as industrial war casualties.

The fundamental basis for action against this situation is information through a thorough and far reaching worker health education program.

It is of importance to find devices that will shorten the time lag and close the gap between existing knowledge and newly discovered facts and their practical use by our civil and industrial population.

A successful educational program, whether it is conducted on a year-round basis or as a specialized campaign, requires both sound plant and community health and welfare relationships. Health conditions and findings in a community are reflected throughout the plant. The workers should be considered both as members of the community and as individuals.

A survey of the health and welfare needs of both the plant and the community and a clear visualization of the problems is imperative. To tuck the results in a file and feel that the job is completed is useless; in

other words do not develop the habit of making the survey of health needs a springboard from which one rarely springs.

The object of any health program is to help each person realize his own needs and to gain knowledge which will lead to a desire to participate, which, in turn, will lead to desirable attitudes toward health and form better habits of living.

The responsibility for good health rests ultimately with each individual. Unless he desires good health and strives for it, he fails, and the health of the group suffers.

As so many planned economies fail because of their limited scope, health planning and teaching should be broad and all inclusive. It must include every factor that affects the lives of people. Our health ideals, then, include not only physical fitness, but mental and emotional health as well.

In industry, the problem of *adult* education is pertinent. Here the problem is complicated by reason of the fact that adults usually are not as open-minded to suggestions and changes as are the younger people. People who have "gotten along" for some 20 or more years are prone to wish to continue in the usual way. Attempts to high pressure health and social consciousness in people's minds will end disastrously. This sort of consciousness is never lasting—and merely results in a temporary state of mind.

Before a permanent consciousness can be affected, people must be *informed* in such a manner as to fully *understand* the purposes and the program. Information and understanding are the key stones to lasting results.

Health information used should always have a scientific basis. Materials should be kept up-to-date and the importance of using attractive eye-catching materials should not be underestimated.

The program should start at a level which best fits the immediate needs of your own plant and community. The efforts of other forces in the same or similar areas of endeavor may be *supplemented*, but *need not necessarily be duplicated*.

The cooperation of forces in your area of endeavor should be cultivated. The interest and cooperation of other health and welfare agencies is not secured purely by virtue of their existence. Here, too, is a job that needs careful consideration.

It is necessary to avoid a tendency to either over-educate or under-educate certain segments of your plant and to neglect the minority groups. The minority groups may bring special problems and require a more intensive and extensive technique of education. This is a challenge! Participation always stimulates genuine interest.

Organization and program development requires courage. Rather than waste your time, money and efforts on insignificant procedures, the results of which will not be far reaching or permanent, it is better to set up one definite long range goal. It is not inferred that the goal should be so idealistic as to be unattainable, but even a practical, conservative plan can have a large, long range purpose. It is generally found that your following and the general public interest will be greater if this principle is followed. The real job is done at the plant—at the grass roots—through cooperation with national, state and local official and non-official health agencies. The problems can be viewed from all angles. However, the details must necessarily fall to the—grass roots—each person must be reached as a person, since emphasis is no longer placed on mass education.

The immediate concern is with the opportunities

and obligations that may exist for education in the industrial health field as reflected in the several approaches incorporated in this symposium.

My concern today is with the role played by the industrial nurse, assuming in this instance, that she has been delegated the responsibility of leadership in the worker health education program.

One of the first steps to be taken is to stimulate in management an awareness of the existent health problems and to motivate purposeful participation on their part. Coincident with the program for workers necessarily must go the program for management. This is a far more difficult program. It is a challenging problem to offset the negative influence of the indifferent or uninformed head who can either vitalize or deaden a program.

The program must be broad and coordinated, with every member of the plant organization thoroughly sold on health and working in harmony for the good of the individual. Although the educational activities related to health should be coordinated in one program and under one leadership the success of this program can never be just one person's job. Coordination and full use of the other departments in the plant is necessary, since the best results cannot be achieved without the enthusiastic and conscientious support of the department heads who come in daily contact with the workers.

The industrial nurse, if so delegated, and with the guidance of the medical director, part-time physician or "on-call" physician assumes the responsibility of planning and inaugurating the program, getting it to the workers, and securing adequate materials, and the cooperation of the various groups.

In the small plant, the health education method used most frequently is that of the personal interview. The pre-employment and the periodic physical examination may be used as the cornerstone of the plant health program, with its many opportunities for the follow-up of remedial defects. The individual health record card is revealing as to many causes of illness and absences.

Maladjustments caused by personal and family health problems are also given consideration through interview with the individual worker.

Health education by group instruction is another method used. To insure success, it is usually necessary that such a program be conducted on company time. Heavy production schedules have made this impossible in most plants today. In some instances, the forum meeting in which everyone is invited has formed the nucleus for health education. Foremen and shop stewards, the safety and health committees or union meetings may be utilized. These evening meetings may be held monthly in conjunction with a subsequent recreational program. During months designated for health information, the chosen topic is discussed by the physician, nurse or by a guest speaker, for approximately 30 to 45 minutes, with some time left as a discussion period. Motion pictures can be used here effectively. The suggestion boxes, located in the departments throughout the plant, may be used to discover the needs of the workers and the material they wish covered. The subject to be discussed is given wide publicity in the plant house organ, and the workers are also encouraged to use the suggestion box for questions they wish answered during the discussion period. Health literature pertinent to the subject discussed should be available in the library of the recreation room and attractive posters arranged for illustration. Literature is available through Federal, state and local official and non-official agencies and insurance com-

panies, etc. Some large plants issue their own health literature.

In one plant the public address system is used effectively for dissemination of health information. A series of pertinent, appropriate and catchy announcements are prepared by the medical department and used in rotation. Three or four cards of the series are read each day by the telephone operator. The medical director feels there is a great value in repetition. These cards are simple, non-technical, direct and brief and are at the most composed of two sentences, taking about 10 seconds to read. This method has greatly facilitated the progress of health education being carried on in this plant. Some of the subjects covered so far have been:

1. Prevention and care of the common cold.
2. Fatigue.
3. Dental Health.
4. Nutrition.
5. Tuberculosis.

One of the most effective health education programs observed so far in a large Illinois plant, has been that carried on by the supervising nurse of Sears Roebuck and Company (mail order and warehouse), Chicago. There are approximately 10,000 to 12,000 workers involved.

The nurse, because of her genuine interest in health education, was given an opportunity by the Illinois Department of Public Health to attend an accredited university for work in public health. Upon her return to industry she inaugurated a course outline for teaching advancement of health to workers. After careful planning, this outline was submitted to management for approval. Management, after much discussion pro and con, found the plan acceptable. A conference was then held with the various department heads and the program explained in detail. The plan met with approval and their full cooperation was assured.

A large, attractive and well ventilated room near the medical department was designated as a conference room. The room was well equipped, consisting of comfortable chairs, wall space for posters, a large blackboard, and a movie-soundie unit for the showing of 16 millimeter sound or silent films. The original cost of this movie sound equipment was approximately \$675.00. It is most desirable because it is self-operating.

The health education program about to be inaugurated was given wide publicity in the plant house organ.

The department heads made the workers feel that attendance was a privilege. The selection was accomplished more or less through the volunteer method, two workers being chosen from each department.

The program began with the selection of 200 employees divided into groups of 40 each. One class lesson was to be held for five days a week for 16 weeks. Classes were conducted on company time, beginning at 10 A.M. and lasting for 45 minutes, the last 15 minutes being used for discussion. Each subject was taught as a unit and broken down into a daily lesson plan. The lessons were taught in terms familiar to the level of the group with the object in mind to meet the present needs of the workers and the community. Classes were taught by the medical director, nurse, and by outside guest speakers, who specialized in their respective fields.

Some of the subjects included in the health education program were:

1. *Use the plant medical department.*
2. *Nutrition:* (a) Choice of foods; (b) family budget; (c) meal planning, etc. Some of the classes

were taught by the Nutrition Consultant of the State Department of Public Health. A survey was also made of the cafeterias in the plant to see that well-balanced meals at a reasonable cost were offered to the workers.

3. *Communicable disease control:* (a) Common cold; (b) pneumonia; (c) infantile paralysis; (d) any recent or present epidemic was discussed.

4. *Health and accident hazards:* (a) Occupational hazards on the job and means of control; (b) safety practices in particular jobs, and other hazards such as fire, traffic accidents, etc.; (c) non-occupational diseases and means to prevent sickness or to bring about a speedy recovery.

5. *Personal hygiene:* (a) Rest; (b) sleep; (c) recreation; (d) cleanliness; (e) posture, etc.; (f) feet.

6. *Dental hygiene:* A list of 35 true and false questions were submitted by the Dental Consultant of the Division of Industrial Hygiene, on home care of the teeth and gum treatment, general operative and repair work on teeth—diet—development and growth. Dental films were shown by the Dental Hygiene Institute of Chicago.

7. *Community resources:* Health and welfare.

8. *Mental Hygiene.*

Literature pertinent to each subject was distributed to the workers at each lecture and the posters changed accordingly. Some of the various sources of literature were the official and non-official agencies—Federal, state, or local.

Upon completion of the fifth lecture a survey was made to determine whether:

1. Benefits were being derived from the classes.
2. If the classes met with their expectation.
3. If the employees wished the classes continued.
4. Subjects they wished discussed in the future.

From the answers derived from the survey, it was interesting to note the interest and benefits that had been derived and the many subjects requested for discussion at a later date. One worker took notes of all the lectures and had copies of each mimeographed for the other 60 girls in her department. She also wrote to the various agencies to obtain additional copies of the literature that had been distributed at each lecture.

The health column in the plant house organ was used for discussion of current health topics not covered in the class.

Although only one session of the lectures has been completed to date, the results have been far reaching. Since then a chest x-ray program sponsored by the Chicago Municipal Tuberculosis Sanitarium, taking 4 x 5 films, has been conducted on a volunteer basis, with a high percentage of workers taking advantage of the program.

Management has now consented to include a blood test in the pre-employment physical examination. The Chicago Health Department has cooperated by setting up a clinic in the plant and offering blood tests to all the workers on the job, having already had pre-employment examinations.

In conclusion, no attempt is being made in this brief review to record the measure of progress toward a set goal. It is believed, however, that rapid and telling progress is being made in the program of worker health education. We should continue to expand our efforts to meet the needs, firm in the belief that, in days to come, when thousands of workers return to their homes, the information they have acquired in industry will be of value far beyond the immediate needs.

References

"Health Education on the Industrial Front."

Health Education Conference of the New York Academy of Medicine, Columbia University Press, New York, 1942.
"Functions of the Civilian Medical Division, and Description of the Health Education Program."
Office of Secretary of War (Civilian Medical Division) January, 1944.

The Employer's Responsibility

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IN CONSIDERING the employer's responsibility toward workers' health education, it would seem that it is first necessary to decide whether or not it is worth while for a worker to receive health education.

Time Lost Through Illness

IN ACCORDANCE with the U. S. Public Health Surveys, it was found that, in a 12-month period, for every 1000 persons employed, there are approximately 114 absences of seven days duration or over—in other words, for every 1000 employed, 114 absences occurred of one week or over. The yearly figures also show that for every 1000 persons employed, there are 1000 absences of one day's duration or over, and that for an average year the ordinary male worker spends seven to 10 days off the job because of illness, and a female 12 to 14 days.

In the United States there are now approximately 50,000,000 people employed. With each losing between seven and 10 days per year, or say eight days, the days of lost productive labor can be assumed at around 400 million. Assuming an average wage of \$6.00 per shift, the direct loss in wages is certainly over \$2,000,000,000, and this does not take into account the indirect expense which is incurred when an employee is ill, through the interference with production, the loss of profit on the employee's productivity, or the overhead cost which continues on the idle equipment while the employee is non-productive.

Death and Accident Loss

ACCORDING to the data recently issued by the Office of War Information, it would appear that 65,600 persons have been killed in industry from Pearl Harbor to January 1, 1944, which is more than the military casualties for the same period. Two hundred and ten thousand workers were injured, which is also considerably more than the number wounded in the battle fronts. According to the same agency, it would appear that 50,000 workers are absent every day from United States industries because of accidents or injuries, and further that the deaths and injuries on the job are at the rate of 270 million lost man-days a year—or the equivalent of 900 thousand workers from production lines.

General Health

THE rejection of 30 to 33% of the available manpower by Selective Service because of physical defects is certainly a reflection on the general health of our population.

It is thus apparent that the answer to the question as to whether it is worth while for a worker to receive health education is definitely "Yes."

It is, therefore, a matter of determining what is the best way to handle worker health education, and in this connection the employer's position is believed to be as follows:

Every executive will agree that it is well worth while to maintain equipment in the best possible running order, and it is only a short step from here for

management to realize that the maintenance of the human machine is equally as important as, if not more important than, that of the machine in the plant. Probably the underlying reason why in the past so little thought has been given to the human machine is because the human body is such a well-designed unit that it will stand an unbelievable amount of abuse in comparison with ordinary plant equipment.

As I have often expressed in the matter of prevention of accidents, lessening the occupational disease hazards, and absenteeism, it will be much simpler for all concerned if management will consider worker health from a dollar-and-cents angle, and not from a paternalistic or altruistic motive. The great advance in the safety movement has not occurred because of humanitarian reasons, but because management finally realized that safety devices were cheaper in the long run than accidents. Just so with workers' health.

It is, of course, realized that health is definitely purchasable to a very great extent—just as accidents are preventable. I believe that the health of the people is our country's greatest natural asset, that industry's efficiency is dependent upon the health of the workers, and that the mental attitude of our workers, and, therefore, their productive output, is definitely affected by the health of their families, which in turn is dependent upon the general health of the community. I do not think that my attitude as to health varies greatly from that of most executives. However, it must be realized that it is very difficult for management to get this attitude across to the workers. For example, there would be considerable criticism if a company, no matter how excellent its motives, would suddenly specify how much spinach a worker was to eat, and that only two drinks of whiskey should be taken instead of say six. Therefore, I believe that, at least for the present, management should in general confine its efforts toward improvement in worker health to those activities over which it has control, for example, on company property, by lessening accidents and occupational hazards, leaving to the Federal and state agencies the problems of improving living conditions and personal habits.

This conclusion is also based on the realization that only the very large employers, who are probably not over 20% of the total in the United States, are really capable of undertaking constructive studies in improvement of workers' health, as the majority do not have medical or industrial hygiene staffs. There is, of course, no reason why managements, both large and small, should not cooperate with the state and Federal agencies by providing places for health lectures to be given by state or Federal representatives. In regard to lectures, I feel that they might well be held half on company time, and that if the employees are not willing to spend a portion of their own time, then the lectures are probably not worth while. Moving pictures can be shown with fine results, and health propaganda should be given a place in employee publications, provided it is written by an individual outside the company's personnel and of recognized standing. Space for posters on company bulletin boards should be made available, and pamphlets of governmental agencies or insurance companies should be distributed among employees—we have already obtained considerable help through the pamphlets issued by the Metropolitan Life Insurance Company. We wish, however, to reiterate that work of this kind can better be handled under present conditions by outside agencies rather than by management directly.

The next question to decide is whether Federal or state agencies should handle the health program.

Our company, the St. Joseph Lead, has never followed the practice of trying to handle all details from its New York office and has obtained satisfactory results through decentralized control—each division is responsible for its own operation. Policy matters and items which affect all divisions are handled in New York. Although under war conditions we have all become familiar with centralized Washington control, many of us have seen the enormous waste of time and effort that such a system necessitates, and we long for the return of the day when local matters will be handled locally. The drafters of our Constitution were certainly on firm ground in their policy of state's rights.

In my opinion the Federal government should aid in the education of engineers, doctors and research workers, and, upon completion of the training period in industrial hygiene, the individuals should be turned over to the state agencies. The Federal government could undertake medical, sanitation, and occupational disease studies, the preparation and setting up of standards for hazardous gases, dusts, etc., in which a large portion of our country is interested, but their work and responsibility should end here.

The position of the state agencies and their responsibility might be summarized as follows:

The state agencies would aid local doctors in matters of industrial hygiene, they would aid industry in solving health, safety, and various other problems by the issuance of proper codes and literature, and they should undertake the education of the worker and of the community on health matters. The attitude towards industry on the part of the state agencies should be cooperative and unbiased. If it should develop that certain codes or regulations are impractical because of subsequent developments, then proper steps should be taken to have them corrected.

If the state agencies are willing and able to accept this responsibility, then they must have more funds and more personnel, because it is a very big job. We must realize that there is no point in stating to men in hazardous occupations that they must be x-rayed every six months, or should take penicillin for venereal disease if the facilities are not readily available. Although examinations at college could be passed by cramming over the week end, an education cannot be obtained in this way, and the health education of the worker or of a community cannot be obtained by one lecture, one pamphlet, or a few posters. Years of effort and many thousands of dollars are required!

In 1923, the accident experience of the St. Joseph Lead Company was \$3.51 per \$100 of wage and salary roll, and our safety department expense was 10 cents per \$100, a total of \$3.61. In 1943, 20 years later, the accident experience had been reduced from \$3.51 to only \$0.77, and, in my opinion, this has been accomplished because the safety department expenses had increased from 10 cents to 59 cents per \$100 of payroll. Results like this cannot be obtained overnight, nor should we expect any marked improvement in workers' health or in that of the general community without an expenditure of both time and money.

I, frankly, do not look for any great increase in the immediate appropriation for the state agencies, and, what is more important, I do not know where they can obtain competent personnel until after the war. However, I am not unduly discouraged, as no matter how small their contribution may be, it is of increasing importance to the economic security and general well-being of our country. We should not overlook the great victories that have already been obtained in the field of preventive medicine—the life span has

been increased during the last 50 years by 20 years, and average life can now be assumed at 62 years.

In the field of nutrition, it seems to me that the future is almost unlimited. Apparently it is considered very poor form to compare expected human reactions with results obtained in plants or animals. (In the old silicosis suit days I was most enthusiastic to use the data obtained by Dr. Gardner at Saranac, which showed that there was no silica in the lung of a mule which has been underground working in dusty atmosphere for 25 years. However, our lawyers would not permit the data to be presented, as we would be comparing man to mules.) We have already seen the marvelous results that correct feeding has in the production of eggs, milk, wool and meat, and why, therefore, is it not sound to look forward to great improvement in human health by correct feeding? However, as I have already stated, for the time being at least let us have the state agencies and not management advise as to personal eating habits.

Being somewhat "practical minded," and desirous of always obtaining the most benefit per dollar expended, if the amount available to the state agencies is as small as I think it will be, then I would suggest that for the next few years a course should be given in the basic principles of health education, sanitation and nutrition in the high schools and colleges, especially in industrial centers. If we can get the "workers of tomorrow" thinking along the right lines, then very satisfactory results will be readily obtained when postwar funds and personnel are available.

The state agencies, however, can, even today, greatly aid industries through advising them in the unknown hazards that will arise in the production of new products. Industry welcomes advice and supervision of its operations, provided it is fair and competent. Our company has found that periodic checks by outside agencies are most helpful and the expense involved is an excellent investment. Physical properties, consisting of buildings, boilers, compressors, air receivers, etc., are routinely checked by outside parties, and the working conditions that affect the health of our employees are checked by annual arrangements with Saranac Laboratories, Harvard School of Public Health, and the Industrial Hygiene Foundation. We welcome visits of the state mine and factory inspectors. We have found by the trial and error method that money spent in improved working and living conditions pays dividends in human happiness and in dollars.

In conclusion, our company and, I am sure, industry in general will be willing to aid the state agencies in worker health education, because education over a period of years will wipe out the greatest cause of illness—which is ignorance.

The Labor Union's Responsibility

LEO PRICE, M.D.,
Director, Union Health Center

I FEEL that, before beginning a discussion of a union's responsibility in health education, it is important that the discussion be based on a generally acceptable definition of education. The dictionary defines it as: "The training of the mental and moral powers by a study of system of study and discipline, or by the experiences of life." In the United States workers and non-workers are constantly confronted with posters, pamphlets, newspaper articles of popularized medical content, advertisements and columns on nutrition. To call this material health education

presupposes that people study these posters and are trained by them, which I do not believe to be entirely the case.

Another source of education applies more specifically to industrial workers who must protect themselves. In most hazardous industries where workers are in danger of injury by accident or from exposure to dust, chemical fumes, and so on, three pressures are exerted on them to insure the fact that they will understand the need for health protection. The first and strongest is the worker's own concern with his health. The second is the demand of the government that he shall be made aware of existing dangers. The third is the economic stake of the employer who is concerned with compensation in the event of disability. Here education becomes more effective because it is specific and motivated.

Then there is education through discipline that is imposed either on the employer, the worker, or both. Every state has legislation covering working conditions. Factory fire, sanitation and compensation laws have accustomed them to working under standard conditions of safety and hygiene—from which we must conclude that compulsion is also a force for education.

The public health agencies impose compulsory protection of public health. Now every worker will submit his children to vaccination without fear because he has been educated to believe in its value by actual experience in the proof of smallpox control.

Let us evaluate the methods of education I have just outlined. The effectiveness of posters, pamphlets, and magazine articles presupposes the worker's willingness and ability to study and digest their messages. Governmental discipline certainly plays the greater role in health education, since it imposes safety standards and sanitary codes, in addition to vaccination control of disease. From this I believe we can conclude that such actual experience of life makes for more effective education.

A fine treatise on an ideal set of health instructions is absolutely valueless until some person reads it and acts upon it. Our definition says that education is training, and training cannot be measured until it functions. People measure every other kind of education; there is no reason why we shouldn't try to measure health education. Since our objective is improvement of the over-all health of the people, we have to decide by some yardstick what percentage of defect entitled a person to be called "healthy."

A great deal of the controversy in current discussions of medical care centers precisely on this point. We all know that the Selective Service examination has shown that a large proportion of our men have sufficiently serious defects to render them unfit for the armed services. Studies of the health of our school children also show a high incidence of defects, which makes us question the effectiveness of any of our present systems of so-called "health education."

I don't know if there have been any scientific studies made to determine how efficiently our health education has functioned. It is impossible to determine accurately how low a health standard we might have without any health education. But there is a question in my mind whether the present form of health education is adequate.

Up to this point I have discussed aspects of health education in which the worker assumes a relatively passive role. I have discussed health education as something which has been pushed toward or thrust upon the worker. Everybody knows that the most effective method of educating in any field, demands not a passive but an active participation on the part

of the person to be taught. That is why I suggest that health education, to be effective, must start with an actual experience of life.

To prove the effectiveness of health measures and the value of early investigation of disease symptoms, we must take health improvement ideas off of posters and out of pamphlets and bring them to a working man as an experience of life.

I am not convinced that any worker has a sufficiently positive attitude toward posters and pamphlets. However, I am convinced that if you ask any worker about his health problems, you will have to listen to him for a long time. I think that almost every worker knows that his health is his most valuable asset. Nobody has to teach him that. Through experience he knows that he must be healthy in order to earn a living and maintain himself and his family. Holding his job is his chief reason for attaching so much importance to his health. He isn't concerned about his responsibility to society, nor does the possibility of public dependency concern him until he is actually threatened with it. Even then it may not bother him from a sociological standpoint but only in so far as his family and dependents will suffer.

Since the worker is actually more concerned with his own health than any other person, you may well ask why he hasn't reached a state of education where he will know how to take care of it. There are several answers to this: It might be poverty, fear or ignorance.

A large section of workers, particularly in low-paid industries do not have the money to carry out even the simplest and most understandable instructions they have read. If he can't afford to pay for heat, he won't sleep with his windows open, so fresh air at night is not considered. If he can't afford to buy enough food, he doesn't worry about a well-balanced diet, but rather, about filling his stomach. If he can't afford food and heat, he certainly isn't going to pay for a periodic medical examination, because he feels that while it may be a "good thing," it is a luxury beyond his income.

Then there is a second group of workers; men and women who have always been employed but who have lived in such financial insecurity that they are afraid to discover the true state of their health. When people need every cent they make for food and lodging and cannot afford to lose time from work, they feel they are forced to ignore symptoms of illness even when they are the source of great physical discomfort. Many workers whom most people regard as well-paid carry such a burden of family responsibility and budget on such a narrow margin of security, that they not only shun examination but absolutely deny ill health.

Third, there is a section of workers, and not only workers but people in all walks of life, who regard certain disabilities as trivial and cannot possibly evaluate symptoms as danger signals, because interpreting symptoms is the business of a doctor.

In my experience periodic medical examination is the strongest educational force. As I have pointed out, however, most workers have been unable to afford such examinations. Where free examination is offered to the individual, it frequently comes to him from some source he is unwilling to trust.

Even if every worker could be convinced, theoretically, of the importance of medical examination, he isn't educated to its value until the examination is available, financially and psychologically, which is what I mean by teaching through experience. Also, such experience must come from an agency he trusts. Many workers may trust charity clinics. Many workers

may trust their employers. I think there is no question that first and foremost the worker trusts people he feels will know and understand his problems—financially, socially, and psychologically. That is why workers feel that of all possible agencies, their own union is the most trustworthy, even in deciding matters of medical care. Union leaders are beginning to realize that and consequently recognize their responsibility to the worker in the field of health.

When you discuss unions all over the country you must understand that unions are not all similarly organized. Different unions have different structures. Some are old, and large, and powerful, and concentrated in one area. Others are small, geographically scattered, and struggling for their existence. Obviously those unions which are still newly organized, and concerned chiefly with bread and butter problems can't undertake the administration of medical care. I believe that the leadership in a great many unions is anxious to take some responsibility for the health education of its membership, but is often financially and mechanically unable to do so.

SOME unions, however, have already instituted health programs. Others are seriously considering such measures. Unfortunately, what I am best qualified to discuss, is not *representative* of union health programs. The International Ladies' Garment Workers' Union is carrying out a health program that has 31 years of experience behind it, and is therefore highly organized. Since all of you are aware of the sudden public interest in health, I presume you have called me here to find out what has been done in the union which I serve, and how much of what we have done I consider to be education.

First of all, we have a large clinic which I will describe later on. For conventional education by graphic presentation, we have a lot of posters on the walls of our clinic; we have a lot of posters on the walls of the shops and the union offices. This union used radio as an educational medium, and part of that radio time has been given over to talks on health. There are columns on health in numerous union publications. Printed material is available for distribution in the clinic. At one time we even gave a series of health talks in the shops in foreign languages as well as English.

You want to know whether we consider this health education. Well, of course we do, but in a limited sense, because whether these things in themselves constitute an effective method of education has yet to be proved. We hope that these methods help somewhat, but, since we cannot measure the results, we cannot evaluate them. We can only tell that talk-print education has worked when the occasional clinic patients tell us they read our message.

Printed material is of greatest value when its readers know where to go with problems they have been taught to recognize. Let us assume that people, through reading literature, realize that they need medical service. Then if medical care is not available either because of high cost or of no facilities—the knowledge is worthless. Even if they live in a town that has a free clinic, it is most unlikely that a worker will take a day off for a physical examination when clinic sessions come at a time that conflicts with working hours.

Since a worker must be either very sick or jobless before he goes to a public clinic in the middle of the day, I will leave it to you to figure out how much effect literature can have on preventive medicine.

We, however, have planned our service schedule at the health center specifically taking time from work

into account. There are a number of very understandable reasons why we have so many patients availing themselves of our services. First: it is their own institution; they choose the doctors and they trust them. Second: the Center is located in the heart of the garment industry and is therefore accessible to most workers in the metropolitan area. Third: the services are given at hours that do not conflict with working hours. If a worker has to have special medical care and cannot take time from his job, every effort is made to have a physician attend him at the worker's convenience, either during his lunch hour or after work. In other words, the doctors serve these people just as private physicians would, and the people come to the Center at a time convenient to *them*. Fourth: although the services given may yield statistical data of medical interest, there is absolutely no research work done which will make the worker uneasy about being subjected to experimental therapy. Fifth: services are given at lower than cost rates, and a great number of examinations are made on a low cost prepaid basis. Many local unions have prepaid plans which provide some medical services. However, for union members who are not thus insured, services are provided at below-cost rates by an arrangement through which the parent union pays the Health Center the consequent deficit of operating such medical service.

From these five statements you can see that the value of printed health education material is vastly increased when a person sees such a clinic in actual operation. The value of health education is still further increased when local unions have health plans which include prepaid medical care.

A STRIKING example of the influence of a prepaid care is found in the health plan of the Children's Dressworkers' Union. This insurance plan entitles its members to medical services at the Center which may amount to \$15 a year. This means a lot more medical service than the sum implies. The membership of this union is composed of an unusually young age group; 90% are girls under 25 years of age. Yet in spite of their youth and relative freedom from chronic illness, more than 10% of the members attended the Center in 1943, averaging 5.2 visits for each patient—as a direct result of the knowledge of availability of the services offered.

Even when medical service can be given at low rates, it is not used to the same extent as when it is offered without direct charge. In contrast to the record of 5.2 visits made by these young dressworkers, we have the record of the Cloakmakers' Union. In this union the membership is composed of men, most of whom are over 45. Among them there is a much higher incidence of chronic disease and illness. These cloakmakers were one of the groups that helped to found and build the Center in 1913. They have been using the Center as individuals for a much longer period of time than the young girls. In 1943, 30% of the membership utilized the center. In talking to them you find they certainly have as great, if not a greater, appreciation of the Center's value. Still, these older men made only 4.3 visits as compared with the 5.2 made by the young girls who need less medical care.

The reason for this is that while the cloakmakers receive two prepaid examinations yearly, extended medical care in the cloakmakers' union is not underwritten by an insurance program as it is in the Children's Dressworkers' Union. The girls had to pay only 35% of their medical cost, while the older men paid 77% of the cost of their medical care at the Center.

The striking point to make here is that the girls availed themselves of care for which they did not have to pay, since 65% of the cost was borne by the insurance plan. The 35% which they paid also covered the cost of therapy which they found they needed after they had exhausted their \$15 yearly credit.

On the other hand, the older men were prepaid for only diagnostic examination and, where minor defects were pointed out, they were not cared for as were the girls. Where serious defects were shown which the men could not afford to neglect, of course they had to buy therapeutic services, so that the 77% which they paid toward the cost of their medical care represents a payment for needed treatment. Here we see that while a great deal is accomplished by the prepaid diagnostic examination in that it hastens remedial work, it is obvious that lesser defects which do not cause acute discomfort will be taken care of by low income workers only when they can budget for the cost involved by some method of pre-payment.

After one compares these two groups of people and their two insurance plans, I question anybody to draw the line that will separate health care from health education. Here are cloakmakers who have had health education for 30 years. Compared to other crafts of the garment trade, they are a well-paid, intelligent, group of people. But they aren't healthy people. When a person finds out he needs medical aid and he has a clinic that is available, if he cannot afford to go to that clinic he just does not go, no matter how well he knows he should. Is he educated or isn't he educated? A person may or may not have learned something from reading about periodic health examinations, but when he acts on that information and does have himself examined, he has learned something. In our experience, the people who are actually examined are the ones who return to the clinic time and again and learn to take care of themselves to a certain extent. Habituation through doing, and nothing else, is education—but the source of education through experience must come through some such clinic as ours, which can offer good medical services on a prepaid basis.

The girls of the Children's Dressworkers' Union know more about the importance of taking care of their health through doing so than do the older men in the cloak union. The young girls do so not through wisdom but because their union has undertaken the responsibility for seeing that they learn about health care through actual experience.

When medical benefits were first offered in 1937, only 4% of the membership took advantage of the service offered. And of the 4%, one quarter of the applicants for this service were older men, who comprised only one-tenth of the total membership of the union.

In 1937, only a quarter of these worker patients used all the funds placed at their disposal. Of the remaining 75% that made only partial use of the funds, one-fourth made just a single visit. Today, seven years later, let us repeat, 10%, mostly young girls, take advantage of this pre-payment service and use practically all of the funds allowed.

There is still another important point, and that is the mutual feeling of trust between those who are giving the medical service and the willingness of the worker to avail himself of examination. When workers are in urgent need of treatment which they cannot afford, they will struggle along under disability rather than take help from an agency which carries the stigma of charity. But they will avail themselves of services from a source where there is no fear of reve-

lation. Some unions pay for the treatment of syphilis, and the patient's name is not divulged. Others have invited the center to conduct mass chest x-ray, serological and eye surveys. Early discovery of disease and doing something about it, has been emphasized for years.

THE history of the Union Health Center has been one of constant expansion—both of facilities and scope of service—dictated by the needs of the people who use it!

At this time it occupies 20,000 square feet of space—covering two floors of a loft building in the middle of the garment district in Manhattan. Twenty-four examining rooms—constructed with an eye to privacy, comfort, and efficiency of examination; special x-ray rooms; diagnostic equipment which includes electrocardiograph, basal metabolism and physiotherapy machinery, facilities for audiometric tests, and optical examinations—in short, all the necessary elaborate and costly diagnostic equipment is concentrated in the Center, so that we are in an excellent position to distribute medical care of good quality. Our physicians, and there are four full-time and 80 part-time qualified doctors on our staff—are integrated into a working unit that functions smoothly and cooperatively on a salary or per hour basis, again reducing the cost of distributing medical care.

Twelve registered nurses are in attendance, serving not only as auxiliary medical personnel, but also as registrars and administrators. As a worker walks into the reception room, he is greeted by a nurse who is trained not only to understand his medical symptoms sufficiently to assign him to a physician, but his fears and his speech limitations, etc., and make him comfortable through that understanding.

From a growth of 1800 visits in 1913 to 116,000 in 1943, shows that the Health Center furnished a practical answer to the subject of labor's responsibility in worker's health education. Health security is derived from the knowledge of the fact that some medical service is available.

It has been demonstrated that workers without much education have learned in part how to take care of their health.

I hope you will agree with me that health education is fostered by providing facilities for medical care to workers. And such facilities must be made physically and financially available and also attractive.

Discussion

MR. MANFRED BOWDITCH (Boston): Miss Perkins mentioned that two states on the West Coast are now employing industrial health education specialists. As a point of practical information, I would like to inquire whether their salaries are paid by those states or from Federal funds?

MISS PERKINS: I don't know.

MR. BLOOMFIELD: When Title 6 funds of the Health Service reach the hands of the state treasury, they immediately become state funds. In other words, these two people are probably paid from state funds, although state funds might originally have been Title 6 funds. The State of Washington is one that has a state health educator.

MR. BOWDITCH: The reason I term that a practical question is that we wouldn't have a ghost of a chance to persuade our legislature to produce the funds for such a position. We did make an attempt at one time to provide such a position from Federal funds.

DR. ALBERT S. GRAY (Hartford, Connecticut): It is true there are a considerable number of health departments that do have directors of health education. We have one.

MR. ROBERT M. BROWN (St. Louis): Since the ordinary hygiene bureau is very much limited from the standpoint

of funds for personnel, is there any practical way that we can hope to institute an industrial worker education program when we have just about all we can do to keep abreast of the control of occupational diseases.

DR. C. SCOTT MCKINLEY (Charleston, West Virginia): I have a partial answer to that. We do have an opportunity in the larger plants. The better the medical department and nursing service, the better education there will be of the workers. If there is a well running medical department, one in which the employees have confidence, there will be a piece-meal type of education but it does permeate through the plant. That can be done in the larger plants, but you will still have the problem of the smaller ones.

CHAIRMAN BREHM: In other words, we will have to improve and do what we can for the time being.

DR. GRAY: The worker is still a member of the community, and we are doing a lot of educational work, whether you call it industrial or not. Educational material is being supplied by the Bureau of Venereal Diseases and by various other bureaus, tuberculosis and nutrition, so a good deal of work is being accomplished. I would suggest that we use the facilities we already have in the departments of health to apply that education more specifically.

Now in connection with what DR. PRICE said, we are, of course, all familiar with the wonderful job he is doing among the garment workers. In Connecticut we have a very definite program of x-raying groups of workers. At the same time that you x-ray, you can show the workers a practical application of your educational material. The same is true in the making of a considerable number of serological examinations.

This has been done in nutrition, by demonstrating in various industries. They have a plan in Bridgeport, for example, which has attained sufficient eminence to be called the Bridgeport Plan, whereby they demonstrate lunch boxes, even in the various department stores, utilities and factories, to give workers an idea of what a really well-balanced lunch box should contain.

That is a practical application of the theoretical material in your pamphlets, films and posters.

DR. LEONARD GREENBURG (New York): We have much to learn in this field of public health education and in the field of industrial health education; and we may just as well stop kidding ourselves right now when we begin to look the subject over. We just think we are doing a job and that we know how to do a job, while we don't know the first fundamentals about it. Let me give you an example. The school health people for years have been working on school health education and on school health examination. We have had plenty of opportunity to see the fruition of that program. When the draft statistics came through recently, we found that the percentage of rejects among men 18 and 19 years of age was 23.8. Now, I submit that that isn't evidence of any real job being done. Fundamentally we don't know anything about education. The problem starts on the psychological level, and it doesn't start by somebody deciding to make a moving picture or a poster, because you can make 84 different kinds of posters and you don't know which ones will do the work. You have to start in on a very fundamental basic psychological level with any attempt in this field.

I was very much impressed with what DR. PRICE said. When you get the person in for a physical examination, then you can begin to do a health education job on him or her. But I think what we must do in this field—and we are doing something in New York State, though we haven't released any publicity yet—is to make really fundamental studies on how to approach the problem.

Finally, we have to be prepared, as MR. FLETCHER said, to decentralize the program. We cannot hope to do it on a central basis because the problem is too large and the staff is too small. It is like trying to do industrial hygiene in a fairly large state with a fairly small staff. I submit that every staff in the United States is too small for the job, including the biggest staff in any state in the union.

So we have got to readjust a lot of our old ideas and concepts about how to approach this problem and be

willing to admit that there are some things we don't know and that some of the things we have done are wrong, and we have got to find out what the basic fundamental right approaches are before we go ahead and waste a lot of time and more energy and funds.

MR. BOWDITCH: We have a little problem in Massachusetts which is fundamentally one of industrial health education and one on which I would like to ask DR. PRICE's advice, not only because I think he will come nearer to having the answer than anyone else, but also because I think it may in some degree be typical of problems that occur throughout the country.

The requests for the services of our agency which come from labor sources are very few proportionately. We recently received a request for such aid from a labor union which made a somewhat greater impression on us than it might have from other sources. We were asked to go to two plants owned by the same company, in both of which they had a dermatitis problem due to a cementing operation. We found that cement was being applied by a finger method, so that the workers had cement on their fingers constantly; and that, because of the action of the cement and the rather rough treatment their fingers received in trying to remove it, it was no wonder they had dermatitis.

It seemed to us an operation which could perfectly well be done by some mechanical or brush method rather than by the finger method. When we told the management about that, we were told that such was their opinion also; that, in fact, they had worked out such methods but that the union would have none of it because they felt that doing it by the finger method involved a skill which would not be involved if it were done with brushes or otherwise. Therefore, the union would not listen to any proposal that it be done any way except by the fingers. I would like to ask DR. PRICE where we go from there?

DR. PRICE: The subject isn't unfamiliar to me because we have had workers come into the clinic, and the dermatologist has called my attention to various forms of dermatitis which should be treated and controlled. I have talked the matter over with some of the union leaders.

In the old days, when conditions were pretty bad, most of these fellows would rather work with a dermatitis than not work at all. So the answer was, "Let it go. Forget about it. The worker is perfectly satisfied. The employer is glad not to have a compensation case in his shop, and the season is short, so let's forget it."

We can accept that in an individual case, but I don't think we ought to accept it as an answer to policy. I think there is an educational job. You have to convince the leader that he must convince the workers that that isn't the proper way to do it. While the local groups might decide they want to go ahead this way, there are plenty of officials in the higher brackets who understand enough about such a problem to say, "If this is going to be permitted and you are going to be influenced by the individual workers in that shop, then something is going to come along and management is going to tell you to close your eyes to it."

I am sure you will get cooperation from the ultimate leadership to see that a thing like that is stopped and, in the end, you will get the cooperation of the union.

DR. MORRIS RASKIN (Detroit): On the platform are represented all elements concerning the problem, and the answer lies with the proper coordination of efforts of the elements represented. If in each plant there existed a health committee composed of representatives of labor and management, in association with the Public Health agencies, one could formulate a basis for the development of health education plans. The greatest barrier at the present time to the development of these plans is a lack of mutual trust and confidence between the workers who suffer the diseases of industry and the medical departments who can help the workers. This lack of confidence and trust can be overcome by proper relationships developed through conversations, at first, and from these will evolve plans jointly sponsored by both groups.

One hears much about educating the worker, and all kinds of educational material is thrown at him. One ex-

pects that after receiving this information he should be able to protect himself, yet there is so much concealed from him. In the Detroit area, for example, we find that the Public Health agencies are asking the local unions to be present when they inspect plants. This has helped a lot. It has developed confidence in the local health agency. The workers now trust this agency.

In other areas the workers are excluded from the inspections. I think a lot could be done if the workers were kept informed of the results of inspection, informed of the dangerous nature of the materials handled.

Within the company medical department itself there is a tremendous opportunity for personal contact and education. The hundreds of thousands of workers who travel through these departments could be approached individually as well as collectively through the programs developed by joint sponsorship.

Health columns in local union papers, written by both labor and management, will go a long way. Health columns written by labor and management within management publications will help a lot, too, as well as realistic movies which present the pictures as they are, not attempting to show the company as a beneficent institution but rather approaching the question of health as it is.

MR. LLOYD M. FARNER (Seattle, Washington): I agree heartily that cooperative effort of management and labor in educational programs is essential, and I would like to say a word about the responsibility of the official health agency in that connection. We of industrial hygiene are merely a part of the health department's official health agency. Mr. Walworth is, I believe, the only one who mentioned this morning the importance of a local health department. I think we must use the facilities of not only the other divisions in the state health department but also the local, and our job is to open the door with both management and labor. We have contact with those groups, and thus we can make it possible for the other individuals to come in and present the material that is needed.

Some of you may have seen the welder's bulletin we put out recently. We prepared a rough draft of this bulletin and then went with that to the business agents and other officials of the unions concerned, and got their suggestions and recommendations. Then we went to the safety engineers and managements of all of the leading shipyards in the state. With the combination of the suggestions and recommendations made by these groups, we then revised the pamphlet, published it, and have had the wholehearted cooperation in distribution of further education along that line by both management and labor because they were part of it.

PLANT CONDITIONS

To What Extent Should Official Findings Regarding Them Be Made Available to Workers?

Round Table Discussion, Led by

KENNETH E. MARKUSON, M.D.,
Director, Bureau of Industrial Hygiene,
Michigan Department of Health

CERTAIN requests and at times almost demands are being made upon the official agencies for detailed copies of plant studies, containing all of the findings on engineering, on chemistry, and on medical information involving the worker and the plant.

The title of this discussion should be changed a little bit. I think rather than just the worker, we should also include the unions, attorneys, and any other third party that may wish a copy of the report.

As a corollary of this subject, I think something should also be said on the amount of information that should be given the plant on medical information regarding the worker. I know that in some places—and some of you have told me the same thing—positive serology reports are given to management.

I don't believe that is right. Neither do I believe that our findings as an official agency relative to the results of any plant studied should be turned over to the individual worker, to the union, or to the attorney. I think that there will be no faster way of defeating our own purpose than by divulging this information to anyone but plant management. It is plant management and only plant management that must rectify the conditions that we find.

Now, with that beginning, I would like to have this opened up for discussion, and I may have a few words to say later.

Discussion

CHAIRMAN PAUL A. BREHM: I am sure that this one subject has offered headaches for all the industrial hygiene agencies in the various states and cities, and I am also sure that all of you have some ideas as to what information should be divulged, or if any should be divulged, and how you handle these situations in your own areas.

DR. LOWE: I would like to ask DR. MARKUSON, isn't all this information subject to subpoena in case of litigation?

DR. MARKUSON: In some states the records that are obtained by the official agencies are absolutely confidential and cannot be presented in court. In others they can only be subpoenaed by another official agency, such as the compensation commission, but they cannot be subpoenaed by an attorney on one side or the other.

MR. BOWDITCH: In Massachusetts we attempted to get a bill through the legislature some 10 years ago making these reports of ours privileged so that they could not be subpoenaed, but that was unsuccessful. In the 10 years that our work has been going on, we have never yet been subpoenaed. Every one of our reports has a rubber stamp on it to the effect that it is submitted on the basis that it will be regarded as confidential, and not to be used in any suit at law or before the compensation board.

In those 10 years there have been only two attempts to break down that gentlemen's agreement, and in both cases we were able to avoid being subpoenaed. So that, as far as we are concerned, the question of whether reports can or cannot be subpoenaed is more or less academic.

DR. GRAY: How we regard this matter in Connecticut is very definitely shown by the fact that we have in our law the statement that the results of the investigation of the Bureau of Industrial Hygiene cannot be used in compensation hearings or in a court of law. Some enterprising attorney thought, however, that there was no reason why he shouldn't be able to see them. He knew that he couldn't use them in a court of law, but he thought he would like to find out what it was all about. So he demanded the results of one of our investigations and the attorney-general ruled that our investigations and reports were to be used for the work of controlling occupational diseases and, therefore, were not public property.

I think that stand is very definitely justified because compensation and the control of the condition present two entirely separate entities, and both are important. To the extent that preventive agencies, such as your Bureau of Industrial Hygiene, enter into the controversial question of adjudication of cases, just to that extent do they lose a large part of their usefulness.

I am sure that, when I relate my experience, it is the experience of many others who are holding these records confidential; i.e., that a great deal of the information we do obtain by which we are able to control conditions in industry is obtained through the cooperation of industry. I have said heretofore that on innumerable occasions when managements know the results of our investigation can be used only to control conditions shown to be hazardous, they open up the situation existing in their plants. It is not at all uncommon for them to suggest—when we go into a plant to look at a degreaser, for example—that there is only a very light load on that particular day and if we will let them know when we are coming they will save up material for us and run a lot of it through for

several hours so we can see how bad the conditions may be.

You can readily realize what would happen if they knew any results that we got could be used in court or in compensation hearings against them.

The only other conceivable reason that a lawyer from the union could have for wanting to know about conditions in a plant would be to see that they are properly taken care of. We have been appointed by the state legislature to do that particular job, and if we needed union help we could very readily secure it.

I remember one occasion on which we were making some physical examinations of workers, and at the same time we made determinations of the amount of material to which they were exposed. The union cooperated with us 100%, persuading those men to have physical examinations. Then they told us they wanted to know what the results of our examination were. I said, "Well, if I told you the results of the determinations in the northeast corner of the room, what if the plant wants to know what the physical condition of that man is, not only in relation to the material to which he is exposed but also his general physical condition? You wouldn't want me to do that, would you?" They agreed they would not. They also agreed it was as fair for one as for the other; that if they could rely upon us to take care of those conditions which did show a hazard, then that was all that was necessary. If they couldn't rely on us to do that, then they should get somebody else to do the job.

So I think, when you consider the whole problem, it is very much better to have these records and reports held confidential; simply to be used to do the work we are supposed to do, to control the conditions in industry.

DR. MARKUSON: I would like to ask MR. BOWDITCH what his attitude would be if a union or worker asked for a copy of the report?

MR. BOWDITCH: We would not give it to them. Where a request for an investigation comes to us from a union source or from an individual worker, we always see to it that they have assurance that any condition we have found which required clearing up has been cleared up. In no case do we let them see the report of actual conditions with determinations, etc., because we do not believe that they are entitled to that.

I quite agree with DR. GRAY, and I think with you in so far as you have stated your position, that we must look to managements for the clearing up of these conditions, and, therefore, it is their concern to see these reports and no one else's. Furthermore, as DR. GRAY has said, you have to look to management for all kinds of information which they would not give you if they felt it was going to be used to their disadvantage.

DR. MARKUSON: And to date you have had no difficulty with that procedure?

MR. BOWDITCH: Absolutely no difficulty. An example will, perhaps, be of interest.

On one occasion a union man came to my office and told me that conditions were very bad in a certain rayon mill, and would we please investigate it? I said, "Yes, but we will have to know in what part of this plant these conditions are. Can you get us that information?" He said he would see that we had it immediately. I then said, "Of course, you understand that we will investigate and correct these conditions if necessary, but you will not see an actual copy of our report." Whereupon he turned on his heel and walked out the door, and I never saw him or heard from him again. In other words, he was engaged in organizing that plant and he was simply hoping to get something on them for the purpose of organizing the workers—which is perfectly legitimate from his viewpoint, but no part of our concern.

DR. WEST: I really can't understand what harm would come from exposing the results of an inspection to a responsible organization. I can see a great good accomplished in the development of trust. It is not always necessary to report the complete findings to a local union requesting such information, but just such information as informs them that they are in a hazard or that they are not, might be sufficient that they can be protected by doing so and so. However, if the reports are made avail-

able to both sides, labor and management, I think it can develop a great trust in both. I do know that, in those instances where the health agencies have informed the workers of the hazard, it has developed good relationships and the basis for better relationships to come.

DR. GRAY: I would like to say that if, as part of the control measures, it is necessary to change operative procedure, we do that; for instance, if a man is working over a degreaser and is pulling material out too fast or is pulling it out before it is drained, then he is told what he should do in order to safeguard his health.

DR. GREENBURG: I think the unions want to consider the official agency more trustworthy, and take it into their confidence and be guided by its evidence. There has been too much suspicion on all sides, and I agree with DR. MARKUSON that this is a case of developing mutual confidence in order to be able successfully to climb over these obstacles with which we are all confronted.

MR. P. J. HOUSER (Des Moines, Iowa): I would like to ask DR. GRAY, what is his policy in a case where the insurance company which carries the compensation for that firm asks for a copy of the report to be used in a compensation claim.

DR. GRAY: If the insurance company doing this work wants a copy of it, we write to the company to whom we sent the report and tell them the insurance company has requested it, and we enclose a certified copy that they can do with as they like.

DR. M. H. KRONENBERG (Chicago): In our state the attorney general has ruled that our reports are not public records. The only way anyone can get a copy of them is to subpoena our records before a regular court of law. However, in cases where we have received complaints from labor organizations and workers, we do acknowledge the written request by telling them that we made a survey of this particular plant and have made certain recommendations, and that we will follow up the recommendations with the understanding that as soon as they are completed the union will be notified.

It has not been a problem in our state. We have had fairly good success with our trade unions and workers. However, once in a while we do run into somebody who makes that demand, and when that occasion does arise we give them everything we have.

DR. SPOLYER: We have no law prohibiting us from giving any information, but we do hold all information in strictest confidence. We have the Commissioner of Health's viewpoint on that. We do not give any reports to unions, insurance groups, or individuals. If someone wants to use the record in litigation, he can subpoena, but no one previews the record. In other words, the lawyer has no idea of what he is actually subpoenaing. We have had only two instances, and in both we were very good witnesses for the other side because the lawyer was actually getting some data under subpoena that were detrimental to him.

All medical findings are submitted to the medical departments only. If there isn't a medical department we summarize the major findings in general terms to management, but we do not submit to management any specific medical findings.

MR. WARREN COOK: Would it be in order to suggest that there are certain constructive advantages in giving certain types of findings to the workers? I have reference to such an incident as where a group of workers may be engaged in spray painting. Exhaust ventilation may be provided, but certain of the workers may be exposed to lead pigment, say, where they may not wear respirators which are provided, or where they may stand between the spray and the exhaust fan.

Where the lead determinations are high, those men can be told what that result is. They may have been doing one of these things that cause them to have the high exposure, and if these acts which are causing high exposures are discontinued, similar determinations one or two months afterward will show they are taking proper care of themselves.

This method has been used in a number of cases by us, and we have found that, by means of it, the man knows he

is being checked upon, even though we may not be there every minute of the day throughout the month.

MR. W. G. HAZARD (Trenton, New Jersey): I speak as sort of a newcomer in this work. It seems to me while many of these cases must be decided individually at the time, we do have to have a policy. The work of the bureau is being paid for by the taxpayers. It is there to serve both management and labor, as well as the general public. I can't see why a labor union should be denied a copy of the report, if the report is a brief affair as we have been trying to make ours, which contains principally recommendations.

I can see, however, that if the report has an elaborate analysis of the scientific findings, those findings could be misinterpreted. But if we leave out the laboratory detail and confine the report only to the recommendations, and if the labor union asks for that, I don't see why we can't do it. As a matter of fact, in order to establish the confidence in the state agency that has already been mentioned, I think we have to treat both management and labor in the same way. We are working for both of them.

MR. BOWDITCH: I would like to ask MR. HAZARD whether he would submit such a report to the labor union without letting management know that he intended to do so?

MR. HAZARD: We would never do that. Our report always goes to the plant management. The copy to the labor union is in addition. We don't send a report to the medical department or to the union. We send it always to the plant managers because they are the owners and operators of the business.

MR. BOWDITCH: I asked that question because on the answer I wanted to base this second question. Do you feel, MR. HAZARD, that the management, knowing that you are going to send your report to the labor union, will be as free in giving you information as it would be if, as in our case, it was known that you were not going to send it?

MR. HAZARD: We always try to explain to the management exactly to whom copies of this report go before we leave the plant. They know before the report is issued that the labor union gets a copy of it. Let me make one other statement. We don't always send a copy of every report to the labor union. It is only in those cases where the labor union representative comes through the plant with us when we are making the tests.

DR. GRAY: MR. HAZARD says his reports are considered recommendations. Possibly his method is better than the one that is generally used, in which we endeavor to tell industry why we are making the recommendations—which means we tell industry what we found. Now, if you just give to the labor union the recommendations, and then the labor union asks you what the results of your actual determinations were, what do you do then?

MR. HAZARD: That has already been covered before our man leaves the plant. If we are going to send a copy of the report to the labor union, we attempt to hold a meeting at the plant after the inspection is completed to summarize our findings with both management and labor in so far as that is possible. Certain tests often times have to be completed in the laboratory, and we tell them that at the time. Maybe the whole result will depend on those tests, so obviously we cannot discuss them, but we do discuss, with both groups and all groups that are interested, our findings while we are still at the plant. The report then confirms the discussion.

DR. GRAY: Yes, but that is a result, if I may say so, of mere inspection. What your opinion is results from your experience. The facts are finally determined upon the chemical determinations that you make or your physical determinations, which in most cases you don't send. If labor asks for them definitely, do you give them?

MR. HAZARD: They have never asked for the dust count.

DR. GRAY: Well, they haven't thought of it. They will.

MR. BOWDITCH: May I add one more word? It is a poor rule that doesn't work both ways, and there is often information that we do not give to management, just as we would not give it in a controversial situation to labor. I have in mind an illustrative situation. Several years ago the father of a girl who worked in a factory near Boston called me up, very much exercised about the conditions

of her job which, he felt, were doing her harm. I told him that we would investigate that situation, and give him some sort of report. It happened that the physician of that plant is a very good friend of mine. He is sitting right here in this room today, and he doesn't know yet that the investigation we made and the correction we secured were the result of the complaint of a worker's parent. In other words, let's play fair with both sides.

MR. BLOOMFIELD: We don't have that particular problem because, as you know, the Public Health Service has no legal responsibility for the protection of the health of the workers beyond that which comes under our jurisdiction as Federal workers. We cannot, of course, escape comment on this particular topic because we are consultants to the states on various problems, not only technical but also administrative.

Some of you may wonder why we are discussing this topic, that is, those of you who are perhaps not familiar with the growth and development of the industrial hygiene movement in this country and possibly don't realize that official work in this field is relatively new, with the exception of a few states—New York, Connecticut, and several others. Most of the official agencies are practically babes in the woods. They have been in existence anywhere from six years to as recently as the last two years.

Analysis of reports we have been getting from the various divisions show that, up to the last year or so, the requests come mainly from management. Very few requests come from labor unions. However, labor, either individually or collectively through unions, is calling upon industrial hygiene units more and more for services. Therefore, because this constitutes a new experience, there has really been no standardization on how to deal with these requests from workers or unions except in some states where the law is pretty specific on the subject.

In trying to answer this question, we have analyzed a public agency's responsibility in this field. It seems to us that the logical procedure to follow is something like this.

To begin with, we feel that if a worker, or group of workers, is dissatisfied with working conditions in the plant, the attention of managements should be called to this fact at once. They are the first people to go to with complaints—not to some other agency but to the management. As owners of the plant, the management should be the one to call on the industrial hygiene agency, if one exists, for services and advice regarding the problem, for it is management that will have to make the necessary financial outlays in the final analysis in improving the working conditions, if improvements are indicated.

However, if management should fail in that step, shrug it off as "just another gripe from the union"—then I think the union is perfectly justified in going to the official agency and saying, "We want this corrected. We think something is rotten. We have asked the management and they haven't done anything about it, and now we want you to do something." They are within their rights in making such a request.

Then the official agency should go to the plant, get hold of top management, and tell them, "We have had a complaint from the union, or a citizen, or someone who works here, and we would like your cooperation in making an investigation. This is a fact-finding investigation. We merely want to perform our function and duty."

As soon as the investigation is started, the worker or the union, whoever made the complaint, should be notified by the industrial hygiene agency that they are at work and evaluating the condition; and, when the study has been completed and a detailed report written to the management, the official agency should sit down with management and discuss this entire condition. Also I think it advisable that the responsible officials of the union be called to sit in on the situation.

Last year when I was out in the State of Washington, the first day I was there, DR. FARNER, director of industrial hygiene, and his health commissioner, and I, went out to a shipyard where they had an epidemic of gastroenteritis. Eight thousand men threatened to strike because they felt their health had been injured; some 750

of them had been ill because of pollution of the water supply. In that particular case we sat down with the Navy, for which the ships were being built, and three of the shop stewards and management. We threshed the whole thing out and arrived at a solution. It wasn't necessary to give them detailed findings or anything else. In other words, I don't think these detailed findings necessarily should be sent to the union or to anybody else except that management will want them because they will need them in making corrections. Also the union should be notified, I think, that a report has been submitted, discussed with management, and recommendations made, and that there will be a follow-up within a reasonable time, say 60 days, three months, or whatever period it takes to get the necessary equipment in these days of high priorities, if that is indicated.

On the other hand, if the union insists—I don't know that they do insist, but suppose they do—that they want a complete detailed report of the chemical findings and everything else, I think this should be refused, and I will tell you why I think so.

After all, the union should have only three reasons for wanting a copy of the detailed report: First, is its interest in controlling the hazardous condition. In fact, I think that is the only interest the union should have—controlling the condition.

The union should have sufficient confidence in the official agency; and the industrial hygiene unit, by its activity, should merit that confidence. Perhaps some of you don't now, but you should, and you will some day, so the union will be perfectly willing to leave it up to you and in your hands to handle this situation with the people that are involved.

Secondly, if the official agency should provide the union with a copy of the report, it might be used in a manner not conducive to further cordial relations between the official agency and management. If the report were used, for example, to bring undue pressure on management to obtain conditions on hours, seniority rights, etc., obviously the management would hesitate to deal with the official agency in the future. In this way the official agency would really be defeating its own ends.

The industrial hygiene unit is charged solely with the duty of evaluating and controlling health hazards in industry.

The unit can do this only by remaining a neutral, impartial, fact-finding agency, meriting the confidence of both management and labor. It can't take sides in the issues.

It is justified in furnishing reports to management, since in this country it is management that is held responsible for the maintenance of standards as regards working conditions, not anybody else. It is management, through its own efforts, its own funds, that is in position to correct these conditions.

The industrial hygiene unit, as an agency, will always exist; it will always go on as part of public service. Its program, therefore, is of long range, not just for the duration of the war. It can't afford to bring down standards for one instant.

Having gained confidence of management by service, impartial treatment, these agencies are in a position to accomplish a general improvement far beyond the problem they are first called in on. If they lose that confidence, the union will only be able to obtain improvement by coercion in the future.

I am not talking about copies of general reports such as MR. HAZARD mentioned. The only other reason they might want a detailed report is for the purpose of using that report in evidence in compensation claims or common law claims.

In this respect, again, it is unfair to ask the official agency to present such a report to the union, since management will feel that its confidence has been violated and will not request the services of the official agency again. It feels that the results of the official agency's work may some day be used against it.

It is equally true that management may want to use the report if it happens to be in its favor. I don't think

it should be allowed to do so. What is fair for one is fair for the other. Reports of the industrial hygiene agency should never be used in litigation by either management or labor.

This, however, poses a problem. The only exception is if the court needs data to determine whether certain alleged conditions really exist. Some of you may differ with my views on the subject, but I have expressed them before in print. Then, and then only, should the commission and court call upon the official agency to determine the facts in the case. In this way both management and labor will realize the industrial hygiene unit is functioning in a purely impartial manner.

Public health agencies should be more aware of their responsibilities in this particular field, and they should not hesitate either to make the necessary studies involved in cases of this sort or to render the testimony needed; at most, the volume of such work will be negligible. By shirking this responsibility—and I want to emphasize this point—the state health departments only strengthen the case of other agencies in the state that feel they should take over industrial hygiene work to give that kind of service, since they now argue they must have that service within their departments if only for the purpose of ascertaining such facts in the event of litigation.

This afternoon you will hear from a gentleman who is engaged in improving production through labor-management cooperation, MR. FEWKES. Last summer, in speaking before the United Automobile Workers, I indicated that the best way to get around this whole problem, as DR. RASKIN mentioned this morning, is to have, in your labor-management committee, a subcommittee on safety and health, and let that committee call in the official industrial hygiene agency.

Then you are being called in by both sides. You can render a report to that committee, and you will not be doing an injustice to anyone at all.

It is my firm belief that if the industrial hygiene units will follow this procedure, in time you will obtain the confidence of labor, management, and everybody else involved.

DR. MARKUSON: The only thing I have to say in conclusion is regarding a general policy that might be of help to all of the different bureaus. I know that, in the various sections of the country, there are bound to be differences of one sort or another, but I do feel that all of us should put our cards on the table when we first go into a plant. We should tell them what we are there for and the manner in which our reports are going to be handled. Then, and only then, will we deserve the confidence of both labor and management.

The Coordination of Federal and State Industrial Nutrition Programs

ROBERT S. GOODHART, P.A. Surgeon (R) USPHS,
Chief, Industrial Feeding Programs Division,
Civilian Food Requirements Branch,
Office of Distribution,
War Food Administration

AN UNPRECEDENTED amount of attention has been paid to the nutrition of industrial workers in the United States during the past two years. This interest has been translated into positive measures to protect the nutritional welfare of the worker in a creditably large number of instances.

A survey of manufacturing plants conducted by the War Food Administration in the Northeastern States in October, 1943, and in the rest of the country in March, 1944, reveals that 48.8% of all manufacturing plants provide feeding facilities for their employees. Ninety per cent of the plants with 2500 or more employees have facilities. The percentage with facilities drops to 79.8 in plants with 1000 to 2,499 employees; to 62.5 in those employing 500-999; to 45.5 where the



The chipped teacup of the PATRIOTIC Mrs. Jones

No matter who the guest—Mrs. Jones brings out her chipped teacup with no embarrassment. On the contrary, with a thrill of pride.

Not very pretty, that chip. But it bears witness to the fact that Mrs. Jones has her nation's welfare at heart.

Mrs. Jones has given up all unnecessary spending for the duration. By doing *without*—she is helping to fight inflation.

Maybe she doesn't know all the complicated theories about inflation. But she does know that her government has asked her *not to spend*.

So Mrs. Jones is making all the old things do . . . not only that teacup. She's wearing her clothes for another year—and another. She's not competing with her neighbors for merchandise of any sort.

And the dollars she's not spending now are safely put away (and earning interest) for the peacetime years ahead. *Then* those dollars will buy things that can't be had for any price today.

If we all are like Mrs. Jones, there will be no inflation with skyrocket prices. If

we all are like her, dangerous Black Markets cannot exist.

A chipped teacup stands for all that . . . for a *sound, secure* U. S. A.

7 RULES FOR PATRIOTIC AMERICANS TO REMEMBER EVERY DAY

1. Buy only what you *absolutely* need. Make the article you have last longer by proper care. Avoid waste.
2. Pay no more than ceiling prices. Buy rationed goods only by exchanging stamps. (Rationing and ceiling prices are for *your* protection.)
3. Pay willingly any taxes that your country needs. (They are the cheapest way of paying for the war.)
4. Pay off your old debts—avoid making new ones.
5. Don't ask more money for the goods you sell or for the work you do. Higher prices come out of everybody's pocket—including *yours*.
6. Establish and maintain a savings account; maintain adequate life insurance.
7. Buy all the War Bonds you can—and hold 'em!

**HELP
US
KEEP**

PRICES DOWN

Use it up . . . Wear it out . . . Make it do . . . Or do without

employees number 250-499, and 27.4% of the plants with one to 249 employees provide food service of some sort.

The manufacturers receiving the survey form were asked to indicate whether or not they were planning expansion or installation of in-plant feeding facilities. Twenty-seven per cent of the largest plants answered in the affirmative. In descending order, according to plant size, the percentage of positive answers from plants employing less than 2500 workers were 22, 16, 9 and 4.

The War Food Administration survey also showed that, by March of this year, at least 6.2 million workers in manufacturing establishments were making regular use of in-plant feeding facilities.

I am not in possession of sufficient data to inform you of the precise results that this has had upon the health, morale and productivity of those workers affected. However, certainly the benefits realized by the worker, industry and the community have been at least commensurate with the time, effort and money spent to provide proper food, food services and dietary guidance for the worker.

Much more needs to be done before the majority of workers will have an opportunity to obtain adequate meals at their places of work. Many new feeding installations and the expansion of many established ones are indicated. The job of educating industrial food service operators on proper procedures of operation and the preparation and service of nutritious meals is a continuing one, as is the most important job of developing good food habits in industrial workers.

The future of the industrial feeding program in the United States is largely dependent upon the amount of understanding and cooperation developed among governmental agencies, industry, labor and community groups and organizations. The establishment of an Inter-Agency Committee on Food for Workers in Washington, with similar committees in the field, represents a major step toward the effective coordination of the industrial feeding activities of the Federal government. Some of the field committees also include representatives of management, labor and local governmental or private agencies. Examples of efforts to coordinate the activities of state groups in the field of nutrition are the State Nutrition Committees, on which, I believe, both the State Health Departments and the Office of Distribution of the War Food Administration are represented, and the State War Councils.

Effective coordination is not possible without mutual understanding of the particular functions and capabilities of each group involved and without consequent willingness on the part of each participant to assume and delegate responsibilities.

The Federal agencies represented on the Inter-Agency Committee have, in the aggregate, the responsibility for seeing that the production of war materials is maintained, that there exists, so far as possible, an equitable distribution of rationed and non-rationed foods, and that the manpower requirements of a nation at war are met. The discharge of this last responsibility in a short labor market necessitates a vigorous program for the conservation and efficient utilization of labor.

To be more specific in relation to the industrial feeding program, the Federal government endeavors to obtain general acceptance of programs and procedures necessary to protect the health of workers in war plants; it is responsible for making available necessary equipment and facilities; for determining certain policies regarding the financing of industrial

feeding operations; for recommending war time patterns for plant food services that conserve materials, food, manpower and time and which provide for adequate meals for the workers; it is responsible for food distribution and price control and, along with state and local groups, for recommending nutrition education programs for workers and their families.

Information on any phase of the government's activities and responsibilities in the industrial feeding program can be obtained from any of the regional offices of the Office of Distribution, War Food Administration. Each regional office has a staff of industrial feeding specialists to advise and assist manufacturers, labor and state or local groups.

As indicated previously, no Federal agency or combination of Federal agencies can hope to do the complete job. It is necessary for state and local groups to take on some responsibility. For example, the U. S. Public Health Service can recommend sanitary standards for mass feeding operations, but, except in certain of the plants under the jurisdiction of the Army, Navy and Maritime Commission, state and local regulations are in effect and can be enforced only by officers of the state or local government.

Other state functions in the industrial feeding program include:

1. The development and implementation of effective nutrition education programs for workers and their families. Although the War Food Administration can and does provide ideas and some materials for such programs, it is not in a position to develop and carry through programs adapted to the needs of each state and locality.
2. Determine the prime nutritional problems of the state and locality and the particular dietary needs and peculiarities of the working population.
3. Determine the need for community food service facilities in war congested areas and institute procedures for meeting the need.
4. Promote the more effective utilization of used equipment and facilities to feed workers and their families in congested areas. Many churches, schools and clubs possess food preparation and service facilities which are not being used to capacity.
5. Obtain part-time workers for such food services.
6. Encourage colleges and universities to institute training courses for dietitians and food managers for industrial feeding establishments. The scarcity of such qualified personnel is a major handicap to the industrial feeding program.
7. Each industrial hygiene division of the state health or labor departments should have the full-time services of a staff of industrial feeding specialists. Where qualified specialists are employed by the state, arrangements would be made with the regional office of the Office of Distribution for more participation by the state in the work of surveying industrial plants and making recommendations to plant management. Each state possesses industries, important to that state, which are not engaged in strictly war work and which can not receive first consideration from the War Food Administration. (Our field staff is quite small.) Furthermore, the states should be making provisions for servicing their industries after the war.

The opportunities and need for activities in industrial feeding vary from state to state and from one locality to another. Each state health or labor department should maintain effective liaison with the appropriate office of the Office of Distribution, War Food Administration, and develop with this office mutual understanding of responsibilities and methods of operation.

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